

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

Stories of the Week
Gags of the Week
Verse of the Week
Are People Funny?
Dreams of the Future

Stories of the Week

A not-so-dashing businessman, whose waistline expands while his forehead recedes, checked in for his regular 5:15 martinis. Year after year it had been his custom to down two or three quick cocktails after leaving the harrassments of his office—then catch a suburban train home. Rarely was this routine interrupted.

By some queer quirk of circumstances, a lovely, lonely, blonde sat down beside him. She confessed her husband had died, and left her a million dollars—but no friends. Sympathetically he listened to her sad story. One thing led to another, and it was 3 a.m. before he got home.

To his wife he made a clean breast of the whole affair—sparing neither himself, nor the lurid details.

"A likely story you invented," Wife fumed. "How much did you lose in that poker game?"

At a Parent-Teacher conference it was mentioned that Sally stole pencils.

"I can't understand it," grieved her father. "I'm a bookkeeper and I bring home from the office all the pencils Sally needs."

"Could I go as high as ten fifty for a squirrel stole?"

"Sure, honey; I'm not stingy. Go up to 15 dollars if necessary."

Gags of the Week

"The chief problem of a dictator is how to keep his people's stomachs full and their heads empty."—DAN BENNETT.

If you were to kick the person responsible for most of your troubles, you wouldn't use the tip of your foot—you'd use the heel.—Grit.

"A good listener not only is popular everywhere, but after awhile he knows something."—WILSON MIZNER.

Verse of the Week

George Pundsack of Refrigeration Sales Co., Windsor, Ont., Can., sends us this verse:

The Common man said honest Abe Was loved by one on high To millions He creation gave They fill the world well nigh But who in hell for sure perdition Invented genus politician?

On many a screen you see him strut With brassy savoirfaire Alack to each discerning eye His putrid soul laid bare And when he's charged with foul pretendment

He spouts about the fifth amendment.

The common man he thrives on peace

He blossoms, grows and blooms The politician finds surcease

When bloody war it looms He taxes you through thick and thin

He robbeth you of kith and kin He waxes fat on stress and strife

He gathereth around him The foulest vilest dregs of life

And no one can confound him And if by chance he wins a war

He backeth up, makes room for more.

(Concluded on Page 6, Col. 3)

ISSUED EVERY MONDAY AT 450 W. FORT STREET DETROIT 26, MICHIGAN. ESTABLISHED 1926.

AIR CONDITIONING & REFRIGERATION
THE NEWSPAPER OF THE INDUSTRY

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Capital 'Lodging' Place Users of Room Coolers Required To Register

WASHINGTON, D. C.—A regulation requiring registration of "plug-in" air conditioners for hotels, tenements, apartments, rest homes, and all types of lodging homes was passed recently by the District Commissioners.

Owners of any of these properties were given 60 days to register on forms available at the District building.

Persons who already have air conditioners will not be required to pay a registration fee. From now on, however, a fee of \$1 is required for both air and water-cooled units.

Adoption of the regulation was recommended by an advisory committee appointed last year to report on the safety hazards of cooling systems.

Two individuals voiced minor objections at a public hearing early in May. These complaints were answered in the regulation, as adopted, according to commissioners.

UsAirco Adds 3/4-Ton Window Unit to Line To List at \$299.95

MINNEAPOLIS—A 3/4-ton window-type room air conditioner, priced at \$299.95, list, and designated the "Standard" model, has been added to the 1954 line of United States Air Conditioning Corp.

All-Fiberglas cabinet construction, introduced to the air conditioning industry in other UsAirco 1954 units, is provided in the Standard, which also features projection of less than 2 in. over the normal window sill, adjustable dis-

(Concluded on Page 4, Col. 5)

Typhoon Announces Low Cost Residential Cooling Unit for Warm Air Systems

BROOKLYN—A new residential cooling unit, the Typhoon "Convert-to-Cool," has been brought out by Typhoon Air Conditioning Co., Inc., it was announced recently by Mark E. Mooney, vice president in charge of sales.

Described as a low-cost cooling unit for converting forced warm air systems to year-round air conditioning, the Convert-to-Cool is now available.

The new conversion system was displayed for the first time on May 8, at a meeting in the Typhoon main factory in Brooklyn. Typhoon district sales managers from all territories attended the

(Concluded on Back Page, Col. 1)

Restaurant Show Pictures

Pictures of new products exhibited at the recent National Restaurant Exposition that will be of interest to refrigeration equipment dealers, are published on pages 16, 17, 22, and 23 of this issue of the NEWS.

Wrangle on 'Expert' Testimony Highlight Of Evis Hearings

LOS ANGELES—The pattern of the testimony at the opening hearings in the Federal Trade Commission complaint on claims made for the Evis water conditioner indicates that the government will rely on "expert" witnesses who will maintain that the device will not do some of the things claimed for it, while Evis attorneys will dispute the validity of such testimony.

In this first phase of the hearings, the FTC presents its case. Attorneys for Evis Mfg. Co. cross-examine the witnesses introduced by the government agency, but will not present the case for Evis until another set of hearings at a later date.

In their cross examination the Evis attorneys seemed to be attempting to establish that the FTC witnesses had not explored all the possibilities that might explain the beneficial results that Evis claims for its water conditioning device.

The FTC called as its first witness J. C. Merrell of the Los Angeles Department of Water and Power who stated that he was a graduate civil engineer, member of a number of technical societies and co-author of an award winning paper in 1951. He had been employed for several years in his present position which had to do

(Concluded on Page 25, Col. 3)

'Hy' Jarvis Elected Recold President

LOS ANGELES—Refrigeration Engineering, Inc. here has announced the election of new officers and directors, with H. T. (Hy) Jarvis, formerly vice president and general manager, becoming president and chairman of the board.

D. D. (Dan) Wile, formerly chief engineer of Recold, becomes vice president and a director. E. V. (Ernie) Jarvis has been elected secretary-treasurer and a director to complete the top management group.

Under the new organization Hy Jarvis will continue the direction of sales and sales promotion; Wile continues in charge of re-

(Concluded on Back Page, Col. 2)

Copeland Reports Increases In Six-Month Sales, Profits

SIDNEY, Ohio—Increases in both sales and net income for the six-month period ended March 31, 1954 as compared for the same period in the previous year, are reported by Copeland Refrigeration Corp.

Sales in the period ended March 31 of this year totaled \$10,554,929 as compared to \$10,512,261 in the comparable period in the previous year. Net income was \$360,605, compared with \$349,893.

City Official Reports Cooling Aids Efficiency, Employee Attitude

HOUSTON, Texas—An enthusiastic testimonial on the worth of air conditioning an office was offered recently by Hugo W. H. Zapp, county engineer. Zapp's report was good news for local taxpayers: Air conditioning of his office has saved the county an untold sum of money.

Since the office was moved into the new, completely air conditioned, \$8,000,000 courthouse, Zapp said, his staff can turn out 30% more work.

"The draftsmen can work on their drawings now," he explained. "They no longer have to put

(Concluded on Page 4, Col. 4)

Put Season Cost at \$40 (Chicago Area) For Home Cooling

CHICAGO—On the basis of total seasonal operating time of 400 hours, yearly operating costs for a 2-ton complete home residential comfort cooling system in the Chicago area would average around \$40.

So stated Lawrence H. Hirschbach, manager, builder sales, General Electric Co. Air Conditioning Dept., in a recent talk before the American Power Conference.

This estimate was based on water costs at 40 cents per 1,000 gal. and electricity at 2 cents per kwh.

Hirschbach emphasized the im-

(Concluded on Back Page, Col. 3)

I-H Adjusts Prices On Refrigerators

CHICAGO—International Harvester Co. has announced price adjustments on its refrigerator line ranging from a reduction of \$23.60 on one model (M82) to a \$3.80 increase on another (M104).

In establishing the new list prices, the company returned to the traditional 95 cent ending. Old and new prices are:

Model	New List Price	Previous List Price
M75	\$189.95	*
M82	229.95	\$253.55
M85	279.95	277.50
M104	309.95	306.15
M85D	344.95	344.35
M105D	399.95	401.65
M105DX	429.95	430.30

*No previous list price.

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Seeger Expands To Up Capacity On Compressors

Tool Up for 'Improved' Unit;
Some Models Will Be Sold
To Industry at Large

EVANSVILLE, Ind.—Seeger Refrigerator Co. is doubling the capacity of its refrigeration compressor plant here in an expansion program to permit production of an "improved compressor" and which will enable it to produce some compressors for the industry at large.

Seeger is a contract manufacturer whose main customer in the past few years has been Sears Roebuck & Co., for which it has produced refrigerators and home freezers.

It is understood that Seeger is now offering its rotary compressors to the industry at large, and that this unit is especially applicable to home freezers and room coolers.

The newly-developed compressor will be used first in a larger size home freezer which Seeger is apparently planning to produce for Sears, but it is expected that it will be adapted to other products later.

The expansion program will cost \$2,200,000, declared Walter Seeger, chairman of the board of the company. A good part of the expenditure will be for production machines and equipment. New type gauging and testing devices will be installed at the plant to assure

(Concluded on Page 4, Col. 5)

N.Y. Appliance Dealers Agree to BBB Ad Code

NEW YORK CITY—A short four-point advertising code for appliances and television has recently been adopted by the Better Business Bureau here and has won compliance from most dealers.

Dealers meeting last month with BBB officials agreed to observe the following rules:

1. Prices of TV and appliances will include all extra charges, such as tax, warranty, and delivery.
2. Appliances or TV sets for which a price is quoted should also be identified as to tube or screen

(Concluded on Page 4, Col. 4)

Worthington Introduces Compact Year-Round Home Air Conditioning

PHILADELPHIA—A completely new home air conditioning unit designed for both winter heating and summer cooling in one compact unit is being introduced to the public by Worthington Corp. at the National Indoor Comfort Exposition here.

The new "Year-Round Home Air Conditioner" will provide heating, cooling, humidification, filtering, dehumidification, ventilation, and air circulation. Year-round control of the unit is accomplished with

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XUM

Buffalo Frigidaire Dealers Band Together To Stop 'Bootleg', Discount Appliance Sales

BUFFALO—Fed up with "bootleg selling" and discount house competition, Frigidaire dealers in the Buffalo area have banded together in an effort to clean up appliance merchandising and restore "respectability" to the trade.

Charles Kraft of Kraft & Williams has been elected head of the new trade group which plans monthly meetings. He said more than 60% of the Buffalo area's 35 Frigidaire dealers have joined the new association and new members are being added right along.

William S. Hake, appliance buyer at J. N. Adam & Co., is vice president; Leon Kolopinski of Kolopinski Bros. is secretary; and Jerry Stern of Pirson-Layer is treasurer.

Kraft said the new association has wholehearted support of the Frigidaire factory.

One of the most immediate objectives of the group is to wipe out "bootleg selling" of Frigidaire appliances in this area, said Kraft. He describes bootleg selling this way:

HOW 'BOOTLEGGING' WORKS

A dealer without a Frigidaire franchise gets an order from one of his customers for a Frigidaire. He buys the item from an authorized Frigidaire dealer and then "bootlegs" it to his customer at a discount price.

"This is the most vicious practice going on in the appliance trade today," said Kraft.

"But we have curtailed this bootlegging about 90% since our new organization was set up. And we expect to wipe it out entirely."

Kraft said the association plans to combat discount selling by impressing upon consumers the importance of dealing with reputable outlets that will stand back of a product from a service and guarantee standpoint.

"Since mid-1951," said Kraft, "the appliance business has been degenerating steadily. Today, conditions in the trade from a profit standpoint are the worst they have ever been."

AIM TO REGAIN RESPECT

"It is our aim to re-establish the dignity and respect of the business. We want to get consumers away from the thought they must haggle over price every time they make an appliance purchase."

"We want to educate them to the fact that the reputable dealer offers something more than price, eliminating the horse-trading type

of operation into which the business has fallen."

Discount houses today have the average consumer believing he is foolish to pay list price for any appliance, Kraft declared. As a result, he asserted, legitimate retailers are suffering and the entire industry is getting a black eye.

He emphasized that no retailer can stay in business long merely trading dollars in competitive selling. He must show a profit.

Kraft said it should be the manufacturer, not the dealer, who sets the price for an item, and the dealer should honestly observe this price. He said the majority of Frigidaire dealers in this area are enthusiastically supporting the new dealer group.

Buffalo Council OK's Utility Tax on Refrigeration Bills

BUFFALO—The Common Council has approved a consumers' utility tax providing for a 2% levy on refrigeration bills.

Florida Group To Hear Segal of Kramer Trenton At Miami Meeting May 25

MIAMI, Fla.—S. Chas. Segal, general sales manager of Kramer Trenton Co., will address the Air Conditioning & Refrigeration Association of Florida at its meeting Tuesday evening, May 25, at Edith & Fritz Restaurant here.

Some 75 air conditioning and refrigeration contractors from the Miami area are expected to attend the meeting, along with a dozen inspectors and engineers from the municipalities of Miami, Miami Beach, Miami Shores, Coral Gables, Hollywood, and Ft. Lauderdale.

Among other things, Segal plans to describe how Kramer recently assisted in installation of air-cooled condensers on the Army Air Force guided missile stations at Eleuthera, San Salvador, Mayaguana, and Grand Truk islands in the Caribbean.

Not only are these installations maintaining close control of heat and humidity to protect millions of dollars worth of technical equipment, but they have released sufficient water to sustain 100 men on each island, according to Segal.



Cool as an Igloo Perc H. Erisman, president, Washington Refrigeration Co., is explaining to Mary Jane Seale about the "Magic Igloo" which provided the theme for this York Corp. distributor's display at National Home Show. The interior of the igloo was lighted by ultra-violet ray lamps. Luminous signs and slogans about York products covered the interior. A 1-ton York room air conditioner provided cooling.

Ruthrauff & Ryan Handles G-E Air Conditioning Adv.

BLOOMFIELD, N. J.—F. J. Van Poppelen, general manager of the General Electric Co. Air Conditioning Div., announced recently that Ruthrauff & Ryan, Inc., New York City, has been appointed to handle its advertising, effective June 1.

This follows G-E's recent announcements of accelerated expansion to meet greatly increased demands.

"The appointment brings to a close many weeks of screening of leading advertising agencies by General Electric executives who sought an agency organization which can provide complete advertising and sales promotion services."

125 models

find your
solenoid valve
in a minute...

in your
ALCO CATALOG

...the complete line of solenoid valves

at your fingertips. No lost time thumbing through other catalogs for any standard or special model!

WRITE FOR YOUR CONDENSED CATALOG NO. 20...and technical bulletins 173 and 182 today.

SEE YOUR ALCO WHOLESALE

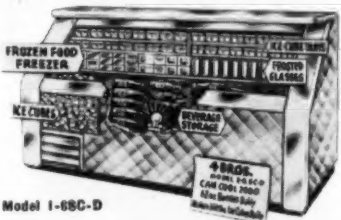


Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

All Purpose Case for Taverns, Night Clubs, Grills, Bars, etc.



Model 1-68C-D

New! 4-BROS. 1954 MODEL "5-IN-1" COMBINATION ICE CUBE MAKER AND BEVERAGE COOLER

1. Makes 250 lbs. Ice Cubes Daily.
2. Dry Cools 2,000-12 oz. Bottles Daily.
3. Frozen Food Storage Shelf.
4. Frosts Glasses.
5. Beverage Storage Space -34° F.

SIZES: 4 TO 10 FT., W. 27", H. 38"

Stainless steel for lasting beauty, economical and dependable trouble-free performance. A space saver that takes the place of several boxes.

Write for Information and Free Catalogue of our complete line of cases for every need.

4-BROS. REFRIGERATION MFG. CO.

Factory and Showroom:
1423-31 South 8th St.
Philadelphia 47, Pa.

Exclusive Franchise Available to Dealers



HOWARD J. SCAIFE, sales manager, Hotpoint Co., demonstrates new Hotpoint "electronic" filter with electrostatic pickup action that is claimed to filter 150% more dirt, dust, and pollen than glass fiber filters. New electronic filter is constructed of two layers of fabric made of coarsely woven polyethylene plastic fibers in metal frame. Scaife said present plans call for merchandising the filter through the company's distributor-dealer network.

Hotpoint Room Air Conditioners Will Be Equipped with 'Electronic' Filter

CHICAGO—A new lifetime "electronic" air conditioner filter with an electrostatic pickup action will be introduced for its room air conditioner line by Hotpoint Co., John F. McDaniel, who is vice president, marketing, has announced recently.

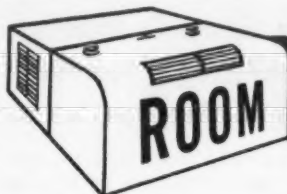
Tested secretly in Hotpoint's research laboratories and in various key marketing areas, the company has already received hundreds of orders from dealers and distributors for these filters, McDaniel said.

Called the Hotpoint electronic

filter, it is constructed of two layers of fabric made of coarsely woven polyethylene plastic fibers locked in a metal frame which fits into the room air conditioner.

The filter works this way: friction of the air drawn through the plastic filter material sets up an electrostatic charge that attracts and traps microscopic particles of dirt, dust, pollen, and animal life.

In announcing the new filter, McDaniel said that Hotpoint was the first room air conditioner manufacturer to have this filter. He said that the filter will be



AIR CONDITIONERS

standard equipment on 1955 Hotpoint models.

Dramatic demonstration of the effectiveness of the new electronic filter can be seen in a simple demonstration, McDaniel said. The dealer takes a small swatch of the electronic filter, rubs it on his coat sleeve or shirt sleeve. Then he sweeps the filter across the surface of a filled ash tray and the ashes jet upward to the underside of the filter and adhere there.

Pointing out that the new electronic filter will last the lifetime of the room air conditioner, the marketing vice president also said that cleaning the new electronic filter is a simple, quick, cold water rinsing job.

After a brief draining period, the filter can be put back into the air conditioner where it is said to be self-drying.

UsAirco Strike Settled

MINNEAPOLIS—The strike of employees at the United States Air Conditioning Corp. plants in Minneapolis has been settled and the plants have resumed production operations, the company announced May 18.

Remington Announces Price Protection Policy

AUBURN, N. Y.—Remington Corp. has announced a price protection policy under which dealers and distributors will be protected against any loss due to price reduction on unsold inventories of the company's room air conditioners.

Herbert L. Laube, president, said the policy was announced "as tangible expression of our confidence that existing prices will be maintained."

The policy covers dealers and distributors for the full amount of any reduction in current 1954 wholesale distributors' prices which the company may make prior to June 15. To be eligible, the distributor must extend proportionate price protection to his Remington dealers.

City Employee Comfort--

(Concluded from Page 1, Col. 4) handkerchiefs and rags under and around their arms to keep perspiration from smearing their drawings.

"I'll say that since we've been in air conditioned quarters, we are turning out 30% more work per man. And it is mainly because we're comfortable and feel like working."

For this reason alone, the air conditioning soon will pay for itself in increased efficiency, better work, cleaner atmosphere, and happier personnel, Zapp declared.

He added: "It's just the difference between living in a nice home and an old barn. And besides, people working in air conditioned quarters are not sapped of energy when they leave the office after a day's work. That makes them a lot happier."

N. Y. Advertising Code--

(Concluded from Page 1, Col. 5) size or capacity as furnished by the manufacturer.

3. Headlines covering all or part of an advertisement claiming special sales or reductions should not be used unless every item listed or described is included in the claims made in such headlines.

4. Advertisers should not state repeatedly or imply that "emergency," "clearance," or "disposal" sales are taking place. Although there is no objection to legitimate emergency or clearance sales, exception will be taken to continuous advertising on such themes.

The code went into effect on May 1. Dealers were given until June 1 to eliminate objectionable material in store displays and point of purchase promotional material.

After the first week of operation under the new code, Leonard R. Barrett, manager of the BBB's home furnishings department, reported that elimination of "out-board" pricing was very encouraging, that very few objectionable headlines were used, but that "emergency" sale type ads were not yet satisfactory.



UsAirco ¾-hp. room air conditioner.

UsAirco Adds Unit--

(Concluded from Page 1, Col. 2) charge louvers, and a simple three-position control switch, according to L. P. Hanson, vice president.

Hanson points out that the compressor and cooling and condensing coil sections of the Standard are identical to those on UsAirco deluxe units.

The Fiberglass cabinet eliminates the danger of rust and corrosion, will not chip, scratch, crack, warp, or splinter, and is color-permanent, Hanson asserts. Matching Fiberglass window blockoffs are provided for a harmonious decorating scheme.

For easy servicing, the inside chassis slides onto channel rails from inside the room, leaving outside cabinet and window blockoffs in place. This equipment carries UsAirco's five-year warranty.

UsAirco deluxe units, available in nine models, are equipped with built-in thermostat, heating either with heat pump operation or electrical element, pushbutton control panel, two-speed fan motor, and adjustable fresh air and exhaust.

Seeger Expansion--

(Concluded from Page 1, Col. 5) the quality and function of the completed units, Seeger stated.

The expansion will result in the employment of several hundred people in addition to the 3,500 now employed by Seeger in Evansville. The Seeger Co. has its headquarters and cabinet plant in St. Paul.

Seeger's sales for the first six months of 1954 were \$56,099,540, up from \$52,384,520 in the like period of 1953. Net earnings were \$2,738,046, up 14% over 1953's six-month net of \$2,395,736.



LARKIN TURRET HUMI-TEMP

The acid test of any product is performance. That's why you will find Larkin products used so widely for so many different refrigeration and air-conditioning applications. Users know from past experience that they can count on Larkin for top performance—day in, day out—year in, year out.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS

319 MEMORIAL DR., S.E. - ATLANTA, GA.

dependability makes Delco Motors FIRST CHOICE!



Delco Integral HP Motors. Single-phase, repulsion-start, 1 through 5 hp. Polyphase, 1 through 100 hp.

Check up on the motors that power air conditioning and refrigerating equipment. You'll discover that more and more manufacturers are putting Delco Motors in their products. Manufacturers know that the Delco Motors designed for refrigeration products provide outstanding service for years on end.

Every Delco motor is engineered and built for extra long life... made to provide the kind of trouble-free service that helps win the highest approval for the product in which it is used.

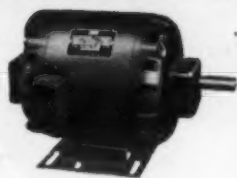
To make sure that you get the right motor for your product, get full information on the Delco motors line. Write Delco Products, Dayton, Ohio—or our nearest sales office.



DELCO PRODUCTS

Division of General Motors Corporation,
Dayton, Ohio

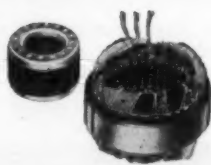
The Best Running Mate Your Product Can Have!



Delco Fractional HP Motors. Single-phase, repulsion-start, 1/4 through 3/4 hp; capacitor-start for blowers and open type compressors, 1/2 through 3/4 hp.



Delco Shaded-Pole Motors. Single-phase, 1/40 through 1/12 hp., especially designed for air moving applications in heating, ventilating, refrigeration, air conditioning.



Delco Hermetic Motors. Single-phase, split-phase, condenser-start, condenser-start-and-run. Also polyphase. 1/2 through 1 1/2 hp.



Delco Condenser cooling fan 1/250 through 1/80 hp.

Redmond

MICROMOTORS

One of largest stocks
in the world!

FACTORY DISTRIBUTORS

CYCLO-FREEZE CORP.

MARVIN L. "FERGIE" FERRETTAD

P.O. Box #6, Dept. A, Mpls. 16, Minn.

MOhawk 9-6794

SPECIALTY SELLING METHODS

Deepfreeze Introduces '15th Anniversary Special' Refrigerator

NORTH CHICAGO, Ill.—Coinciding with the peak selling season for home freezers and refrigerators, an intense campaign for the eight weeks ending July 10 is being conducted by Deepfreeze Appliance Div., Motor Products Corp.

Introduction of a "15th Anniversary Special" refrigerator, described as offering "an unusual combination of deluxe features and value to the consumer and special pricing to the dealer" is one highlight among the campaign's selling aids and inducements.

The refrigerator is an 11.5-cu. ft. model with pushbutton defrost, "Emerasheen" green interior, and five specialized door storage sections. It will retail at \$399.95. The model B-12 anniversary special does not replace any of the five other Deepfreeze refrigerators.

Door storage (Dispensador) conveniences of the new refrigerator are an egg shelf, a butter box with spread control, two quart-size "Handy Jugs" for chilled beverages, a removable storage bin, and a bottle shelf.

Other features include a zero-degree freezer compartment, green anodized aluminum shelves trimmed in gold, and two high-humidity crispers.

Throughout the campaign, distributors and the Deepfreeze field organization will be particularly active in calling on dealers to acquaint them with Deepfreeze products, promotions, and incentives, said J. A. Rishel, Jr., general sales manager.

In May and June, John Fellmann, manager of appliance sales, and L. R. Walker, manager of field sales, will spend their entire time in the field, supervising the campaign.

Expense-paid trips to a major sports attraction, the football game between the College All-Stars and the professional champion Detroit Lions in Chicago Aug. 13, will be awarded to distributor organizations that meet or exceed their sales quotas for the summer campaign.

This weekend trip also will include a tour of the Deepfreeze plants at North Chicago and Lake Bluff and a sales meeting.

Philco Assigns George New Advertising Duties

PHILADELPHIA—In order to achieve maximum coordination between merchandising and advertising, Philco Corp. has expanded the responsibilities of Raymond B. George, vice president of merchandising, to include over-all direction of the advertising activities of all consumer product divisions, according to James H. Carmine, executive vice president.

As previously announced, Morgan Greenwood has been appointed general advertising manager of the corporation, and will direct all Philco advertising.

Under the new administrative policy, Carmine said, the full impact of Philco's advertising, sales promotion, and merchandising campaigns will be directed toward further assisting the company's 25,000 dealers in the advertising and merchandising of Philco products.

Olmsted Dies In Fla.

SYRACUSE, N. Y.—Howard J. Olmsted, 56, former appliance buyer for E. W. Edwards & Son department store here, died recently in Florida. He also had formerly been associated with Morris Distributing Co. here.

Coolerator Promotes Douglas Berguson to Sales, Advertising Post

DULUTH, Minn.—Promotion of Douglas W. Berguson from manager of Coolerator marketing and research to assistant director of sales and advertising was announced recently by G. L. Hartman, Coolerator director of sales and advertising.

Berguson has been associated with the Coolerator sales and marketing department since 1950. He was formerly Coolerator district manager for the New England sales territory. His prior marketing experience included two years with General Mills, Inc., in home appliance sales, Mechanical Div.

The promotion "is a part of the Coolerator sales department realignment to more closely integrate all Coolerator field sales and merchandising programs," the company said.



D. W. Berguson

Litter(ally) Everybody Likes 'Em!

Free Boxer Puppy Offer Sells Appliances And Provides Dealer With Lots of Leads

BUFFALO—Nine definite sales and "a whole flock of leads" resulted at the Big Little Store when the appliance firm offered a boxer puppy free with each purchase of a Westinghouse deluxe model refrigerator, range, freezer, laundromat, dryer, or dishwasher during the Buffalo Better Homes Show.

Harry E. Lotz, proprietor of the Big Little Store at 1145 Seneca St., said the promotion was highly successful not only in generating immediate business but in attracting widespread public attention.

"There's nothing like a litter of puppies to interest people—young and old," said Lotz. "Some of the customers who didn't need their appliances right away took immediate delivery of the puppy but had us hold the appliance as long as to December."

The Big Little Store made the most out of its litter of boxer puppies from a display standpoint. As Lotz put it, "We had 'em working two shifts."

During the daytime, the puppies were on display in the store window. At night they were taken to the store's display at the Homes Show where thousands of persons saw them.

The store used several newspaper advertisements during the promotion to promote the free puppy idea and the ads featured photos of the dogs and their mother. Here's how customers got their puppy:

"1. Place an order for a Westinghouse deluxe model refrigerator, range, freezer, laundromat, dryer, or dishwasher with the Big Little Store during the Better Homes Show, April 24 to May 1st.

"2. The appliance must be delivered before Dec. 31, 1954.

"3. The puppy must be delivered before Sept. 1. (The pups are about six weeks old when delivered. All pups are pedigreed and A.K.C. registered).

"4. You may have immediate delivery, if you desire, on either or both."

Welcome to the Fold

MILWAUKEE — J. A. Lentz Heating & Air Conditioning Co., Inc. has been formed here with an authorized capital stock of 100 shares of no par value. The incorporation papers were signed by John A. Lentz, 2015 W. Center St. here.

BBB Standards Designed To Curb Misleading Trade-In Advertising

SAN FRANCISCO—Curbing of fictitious trade-in allowances offers on major appliances and television sets is the object of a set of standards adopted by the Association of Better Business Bureaus at its annual conference.

The standards, presented by Kenneth B. Willson, national BBB president, state that offers of trade-in allowances should:

1. Approximate in amount the commercial worth to a dealer of the article traded in.

2. Represent an amount deducted from the advertiser's bona fide current selling price.

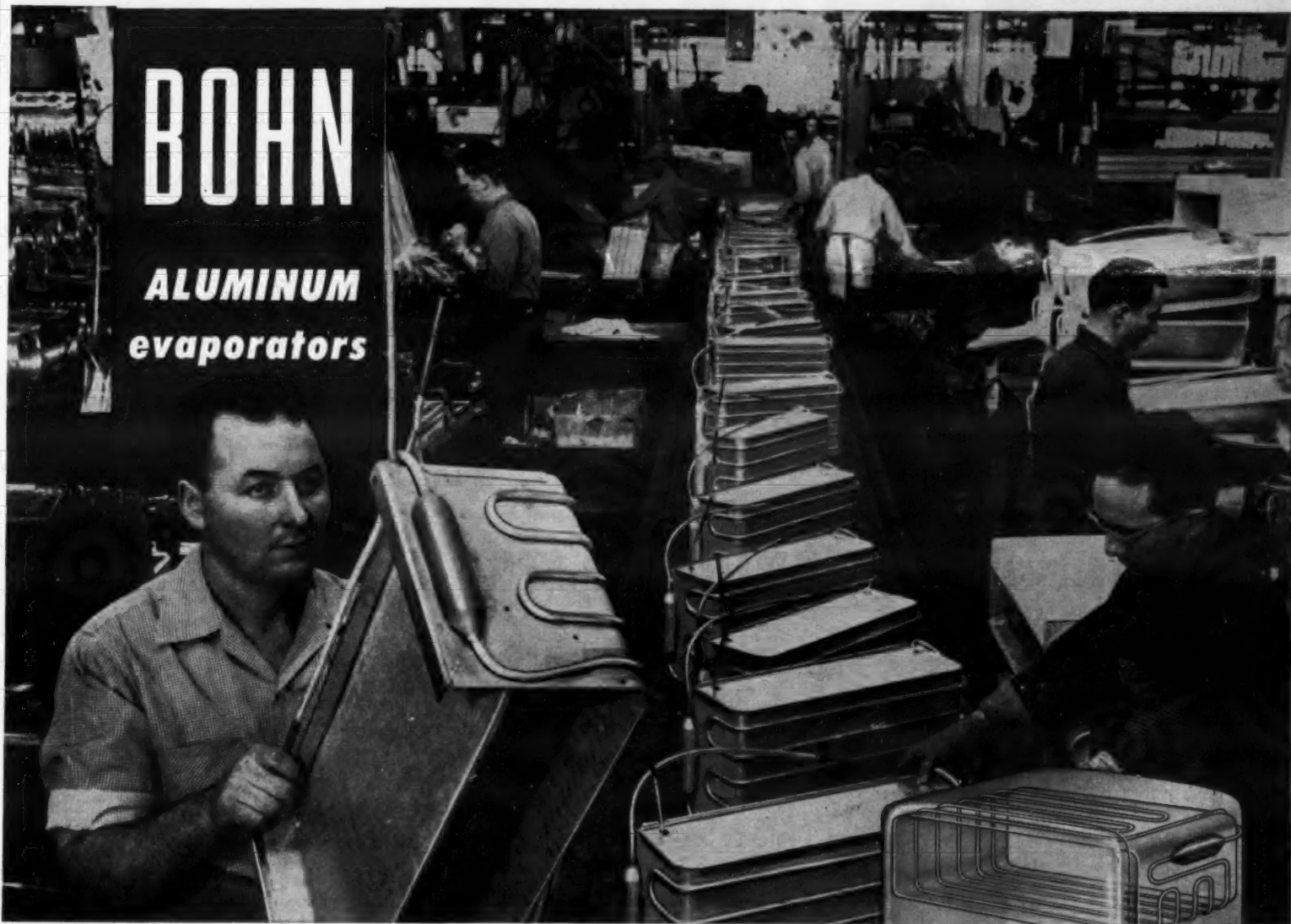
3. Not be used to disguise bona fide price reductions.

4. Not be used as a device to create fictitious price reductions from list prices especially inflated to accommodate the trade-in.

Other standards urge that price ranges be qualified by the phrase, "depending upon make, age, and condition," and that such offers as "\$50 for your old set regardless of age or condition" and "double trade-in allowance" be avoided.

JUST ASK US!

use coupon on "What's New" page.



Rust Proof • Freeze Faster • Defrost Faster

BOHN ALUMINUM EVAPORATORS provide greater efficiency, trouble-free service. Since aluminum is an excellent heat conductor, Bohn evaporators freeze faster—at less operating cost—defrost faster as well. Lightweight, rustproof Bohn evaporators are also non-toxic to assure greatest possible food protection.

Investigate the many advantages of a Bohn aluminum evaporator built to your specifications.

EVAPORATORS • FREEZER PLATES • TUBING • COILS & CONDENSERS

BOHN ALUMINUM AND BRASS CORPORATION

1400 LAFAYETTE BUILDING • DETROIT 26, MICHIGAN

Sales Offices: BOSTON • CHICAGO • CLEVELAND • DAYTON • DETROIT
INDIANAPOLIS • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • NEW YORK
PHILADELPHIA • ROCHESTER • ST. LOUIS

BOHN ALUMINUM EVAPORATORS provide greater efficiency, more dependable service.

Kinetic Sets Up Sales Service Laboratory

WILMINGTON, Del.—Establishment of a new sales service laboratory and reassignment of key technical personnel to better serve the refrigeration and aerosol industries was announced here recently by the "Kinetic" Chemicals Div. of the DuPont Co.

Dr. D. E. Kvalnes, for the last three years head of the Fluorine Chemicals Div. of the company's Jackson Laboratory at Deepwater, N. J., has been named technical manager of the "Kinetic" Chemicals Sales Div., reporting to Emory M. Fanning, assistant director of sales.

The new sales service laboratory, which will take over some of the functions of the present Fluorine Chemicals Div., will be headed by Dr. J. S. Lann, who has been with the Organic Chemicals Diversification Div. at Jackson Laboratory.

Dr. Fred S. Palmer, for the last three years a member of the Fluorine Chemicals Div., where he specialized in aerosol protective coatings research and application studies of the new "Freon" fluorinated hydrocarbon fire extinguishing agents, has been transferred to the Wilmington office as assistant to Dr. E. G. Young, sales development manager of the "Kinetic" Chemicals Div., the announcement said.

York Reports 40% Sales Increase In First 6 Mos.

YORK, Pa.—York Corp. recorded a 40% increase in sales for the first six months of the current fiscal year, ended March 31, compared with the similar period in the previous fiscal year.

Sales for the first six months totaled \$44,449,243, a record for the period. This compares with \$31,407,889 for the first six months of the last fiscal year.

Net earnings were \$1,155,015, or \$1 per common share after provision for preferred, compared with \$670,334, or 52 cents last year.

Norris To Market Products Under 'Thermador,' 'L & H' Names; Consolidate Sales Groups

LOS ANGELES—Norris-Thermador Corp., which acquired the A. J. Lindemann & Hoverson Co. of Milwaukee last year, has announced that all console electric ranges and water heaters produced at the Milwaukee plant will now bear the Thermador trade name, but that the L & H line of cooking tops and ovens will be merchandised under the L & H names.

It was also announced that Norris-Thermador has consolidated its sales organization with that of L & H.

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

Are People Funny?

In his trenchantly exciting book, *Color Psychology and Color Therapy*, distinguished artist-scientist Faber Birren divides people into two main groups: those most sensitive to the warm-end of the spectrum (red-yellow) and those most sensitive to the cold-end (blue-green).

He describes the first group as outgoing and friendly. They harbor instinctively a vivid, intimate relationship to the outside world. Their emotional life is distinguished by warm feelings, they adapt themselves easily to their social environment, and they are interested in OTHER people and international politics.

The other group, the "cold-color dominant subjects," are characterized by a "withdrawn" attitude toward the world. They are introspective and reserved, more interested in their own reactions than in the people and things around them. They have difficulty adapting to their environment.

Fortunately, few of us fall within the exact characterization of either of these groups. We simply have more tendencies toward one than the other. No two of us will react to specific colors in the same way.

According to Kurt Goldstein and other researchers quoted in this book, additional specific responses from color stimulation are important. Exposure to red light, for example, will increase muscular activity. Bright, warm colors stimulate the nervous system, with an accompanying increase in blood pressure, pulse rate, and body temperature.

Dim, cool colors have the opposite effect on the nervous system.

Dreams of the Future

Virtually unlimited consumer applications of atomic energy are predicted by Captain Arthur Van Dyck, Radio Corp. of America executive. He challenges industrial designers to make use of this radically new energy source just as soon as the remaining technical problems are solved.

Capt. Van Dyck avers: "It's a tool of fantastic precision and speed for thousands of experimental and production uses in such fields as metallurgy, machine design, chemical processing, pipeline transportation, and medicine."

"For instance," he hints, "if the steel in an engineering bearing or piston ring is made with radioactive carbon instead of ordinary carbon, its mechanical and chemical performance will be unaffected, but if any of the steel is worn away, it can be traced and measured. Thus a few hours running of the engine can give information on the wearing quality of a new design which formerly required weeks of engine running to cause enough wear to detect by mechanical measurement."

New and amazing applications for tiny power sources challenge the industrial designers' imaginations, Capt. Van Dyck continues. Energy sources small enough to be carried in a woman's purse or a man's pocket will permit such

innovations as electrically-heated clothing for winter wear, personal air conditioning units, or even roller skates powered by an atomic energy source—delivering electricity to small motors mounted on the roller skates.

Hundreds of other applications for these and larger units in outboard motors, lawnmowers, and automobiles are all distinct possibilities—and all within the next 30 years, he predicted.

The largest problem remaining to be overcome before these things can be transformed into actuality is the development of suitable lightweight shielding to prevent harmful radiation. Now, such shielding is done with lead—heavy and bulky. In the future new materials will be developed that will permit small, lightweight atomic energy power plants to be developed to make possible these many new applications—offering a real challenge to the industrial designer.

The peaceful applications of atomic energy will have enormous effect on almost every aspect of human affairs.

It is vital that people understand these changes and keep posted on new developments. Already, atomic energy is the third largest business in the United States. Within five years it may be the largest. It is owned and operated by the government, mostly in secret. If we want to have it run properly, we had better learn something about it—and keep up on developments.

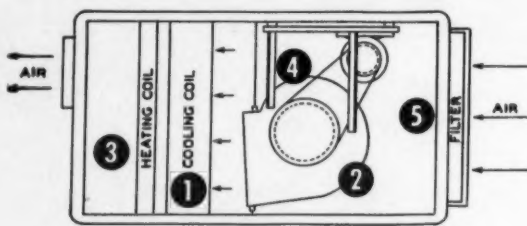
"We are in the midst of an unprecedented technological wave on all fronts," Capt. Van Dyck concludes, "and the chief effect of atomic science will be a great increase in the power and effectiveness of all branches of science and engineering."

"The industrial designer, whose creed is the fusion of beauty, convenience, and efficiency of manufacture and use, will find new opportunities for the exercise of his talents among the abundance of new possibilities resulting from this new surge of science."

NEW FEATURES of PROVEN MERIT

KRAMER

AIR CONDITIONING UNITS



1 MUGGY-AIR-CONTROL

It "squeezes" extra moisture from the air on muggy days without reheating, dampers or excessive cooling. No short cycling and uncomfortable conditions.

2 "BLOW-THROUGH" DESIGN

Fan-motor assembly always exposed to normal room temperatures. A unique design with many advantages, resulting in—
No motor overload and no loss of bearing lubricant from hot air of the heating coils.
No corrosion of fan-scroll assembly from moisture carry-over of the cooling coils.

3 ANTI-SWEAT CONSTRUCTION

Only a small portion of the casing is exposed to cooled air; that section is heavily insulated.

Access doors and grille have scientific anti-sweat designs.

4 QUIET OPERATION

The fans and motor form an integrated assembly independently rubber-mounted to the casing. All moving parts are completely isolated by rubber.

5 FOR FINISHED INTERIORS

Graceful lines with no unsightly belts, motor and guards exposed to view. Finished in hammer gray enamel.

MANY OTHER OUTSTANDING FEATURES.

WRITE FOR BULLETIN AC-238

KRAMER TRENTON CO. • Trenton 5, N.J.

COMPLETELY NEW

"Pebbletone" BEVERAGE COOLERS by *KOLD-DRAFT

NEWLY DESIGNED COMPLETELY MODERN A NEW HIGH IN EFFICIENCY



Shown: MODEL PT-27

FAR IN ADVANCE OF COMPETITION

FEATURING:

- 1—A new low price
- 2—Beautiful and efficient SLOPING FRONT DESIGN
- 3—Truly a SPACE MISER—extremely large capacity in a small space
- 4—New "easy pickup" method of longitudinal NECK-TO-NECK bottle stacking
- 5—Models available—13 - 27 - 40 - 54 case capacity, remote or self contained

Write Today For Literature And Prices

A product of the
UNIFLOW MANUFACTURING CO.
EAST LAKE ROAD, ERIE, PA.

BUILDING YOUR BEST VALUE IN BEVERAGE COOLERS SINCE 1932

Flexible Promotion Plan Set To Go Early Boosts Room Conditioner Sales for Furniture Store

LINCOLN, Neb.—A principal requirement for volume sales of room air conditioners is to plan a flexible promotional campaign in advance of the main selling season so the dealer will be ready to take full advantage of hot weather as soon as it arrives.

So believes Hardy Furniture Co., whose major appliance department has been a consistent leader in Nebraska in number of air conditioning units sold, and was one of the first in the state to stock and promote this item.

ELECTRIC FAN CUSTOMER PROVES GOOD PROSPECT

One of the store's most effective sales techniques has been to go after the electric fan customer both through suggestion by sales personnel and through display. Room air conditioners are displayed not only in the major appliance department but also in the adjoining small appliance section.

Generally speaking, the most fruitful period for air conditioning sales in this state is from June through August, it was pointed out. But in order to take advantage of this selling season, ground work must be laid in advance.

Hardy's plans its advertising, display, and other promotional events early in the year. Back of such planning, it was noted, should be a comprehensive picture of the market to be tapped, an adequate stock of room air conditioners, and a good sales staff that has been thoroughly briefed on the product to be sold.

Literature prepared by manufacturers is employed to start off Hardy's room air conditioner sales campaign. This is mailed out in statements during May and June.

SUCCESSFUL SALES THEMES

The campaign is flexible so that when the first hot or humid spell of the year breaks, the store is ready with newspaper ads, radio spots, and floor and window displays. Productive themes have been:

"Live in a cool, clean climate all your own. . . Sleep soundly and awaken refreshed. . . Be free from wakeful, restless nights—from dull uncomfortable days. . . Protect your health from the outside heat, humidity, dust, and pollen," etc.

Initial mailings are to picked accounts. Out of about 30,000 accounts on the store's books, some 3,000 are selected to receive direct mail literature. Professional and businessmen who buy both for home and office are preferred prospects, although the mailing is to all sorts of prospects in the medium to upper income category.

TRAILER AND APARTMENT DWELLERS NEED UNITS

The firm has found that apartment dwellers and people living in trailers have become very likely prospects in recent years. Such residences, especially trailer homes, have most need for air conditioning as a rule, it was explained.

Since most of the public buildings, stores, theaters, restaurants, and even the small shops in Lincoln have had air conditioning for a number of years, the public has come to accept it more and more as a necessity rather than a luxury, according to Hardy's. So advertising is along this line.

Newspaper advertising starts in June, building up to a peak as the season progresses. In mid-summer at least one newspaper ad is used weekly and radio not less than twice weekly.

As noted, a technique that has been unusually effective for Hardy's is a close tie-in of sales effort on electric fans and room air conditioners.

Every fan customer is considered

to be a room air conditioner prospect. Working on a customer who drops in for an electric fan has been highly productive of air conditioner sales, it was said. The same has proved true of dehumidifiers.

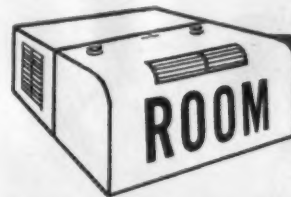
Since room air conditioners are displayed in the small appliance department as well as in the major appliance department, fan customers cannot help but notice them.

All air conditioner models are represented on the selling floor when the first fan customer drops in, and the point-of-sale placards and posters provided by the manufacturer are set up with the displays to act as silent salesmen. Plenty of printed literature is at hand, and all salesmen are alerted

to room air conditioner sales possibilities.

On numerous occasions, it was reported, customers have come back to look at air conditioning units, revealing that they first got the idea from the displays set up in the store and window. An air conditioning window display is maintained throughout the summer season, while newspaper ads are used three times a week and radio spots three times a day during an especially hot, humid period.

All sales leads are thoroughly explored, although very little cold canvassing is done. Salesmen take turns with half a day off the floor each week to call on prospects. Personnel in all of Hardy's departments supply leads.



AIR CONDITIONERS

Salesmen get needed information on the area for which a unit is to be used and give the customer a comprehensive idea of what can be expected in performance. The need for a unit of adequate size to handle the job is heavily impressed upon customers, since the store believes that a satisfied customer is its best sales aid.

Hardy's major appliance sales force handles air conditioners along with other appliances. The manager pointed out that the men know their lines well, and have had schooling with representatives of each line.

Salesmen are paid a straight 5% commission, which the store believes is the method best suited

to getting good men and moving the most merchandise. The salesmen make more money than those in the average Lincoln store, but they also sell more goods.

GOOD SERVICE DEPT.

A good service department is another important factor in selling room air conditioners, the company feels. Hardy's has one of the largest and best staffed in the city.

The units are serviced in the regular refrigeration service and repair department. The department, located at the rear of the major appliance floor, has made a good talking point in clinching sales.

8,000,000 PEOPLE CATCH FEDDERS FEVER!

CAUSE



A. What's Fedders Fever? It's the wonderful urge people are getting from Fedders Millionaire's Vacation Contest ads in LIFE April 19 and May 3! It's fun . . . it's easy . . . and the prizes are tremendous!



B. Millions more catch Fedders Fever from Dave Garroway's "Today" TV show in 51 big markets! When Dave describes Fedders Two-week Millionaire's Vacations for two in France, Italy, England . . . in Bermuda . . . and the raft of powerful 1954 Fedders unit prizes, Fedders Fever spreads like wildfire!



C. This is a real dealer level contest! Two big follow-up newspaper ads break in your town and carry your name. Contestants have to get their entry blanks from you, and already we've distributed millions of blanks!

SYMPTOMS



D. COMPULSION! People with Fedders Fever feel an uncontrollable urge to go to their Fedders dealers and get entry blanks. It's the only place they can get them. Make sure you've got a big supply!



E. DREAMINESS! They dream about luxurious two-week jaunts to Rome, Capri, the Riviera, Paris, London . . . two-week vacations in sun-drenched Bermuda . . . thirty Fedders Room Air Conditioner prizes!

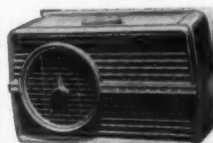


F. EASILY SWAYED! People who have Fedders Fever are like putty in the hands of alert dealers. You can help them win the contest by showing them the powerful Fedders unit in action!

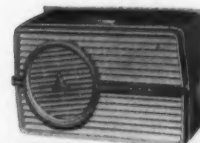
TREATMENT



The Fedders Fever payoff for you is right at your Demonstration Center. And if you haven't your contest display kit, call your distributor, or write Bill Chase, Ad Manager, Fedders-Quigan Corp., Dept. AC-4, Buffalo 7, N. Y.



New 1/2 ton Capacity Model 44



New 1/2 ton Deluxe Model 46



1 ton* and 1 1/4* ton Consoles

*All Fedders Units are full rated



1/4 ton* Deluxe Model 49



1 ton* Deluxe Model 411



GENERAL OFFICE and reception area of the June Savings and Loan Co. is cooled by a 5-ton self-contained unit. Ten other similar units cool the complete 3-story building.

Where Central System Was Too Costly 11 Packaged Units Meet Low Installation, Operating Costs, Individual Temperature Control

CINCINNATI—Low installation and operating costs and individual room temperature control were important factors in the selection of air conditioning equipment for the June Savings and Loan Co. building here.

The three-story business and professional office building with 12,000 sq. ft. of office space was not originally constructed with air conditioning in mind. Installation of a central system, John Weigel,

building manager, discovered, would be prohibitive in cost. So he decided to cool the building with individual package units, each located in the space to be cooled.

The equipment consists of eight 3-ton and three 5-ton Frigidaire self-contained units. Two water-saving cooling towers were installed on the roof in conjunction with the system.

Each office can be individually controlled according to heat load.

In addition, all of the units are centrally controlled by a time clock system located in the basement. These timers shut off the conditioners at 6 p.m. and turn them again at 7 a.m.

This factor alone means an important saving in water and electrical expense as well as wear on the equipment, Weigel said. Another factor in the selection of these units, he said, was that they could be installed without interrupting business in any office.

Smith Rejoins Acme To Aid Research Program

JACKSON, Mich. — Lewis R. Smith has rejoined the engineering staff of Acme Industries, Inc. and will administer and direct a research and development program, P. A. Weatherwax, vice president of the company, announced.

He said Smith will also act in an advisory capacity to the sales and engineering sections.

During his previous tour of duty with Acme from 1936 to 1944, Smith was a prime factor in the development of the "Dry-Ex" chiller, J and STF series "Freon" condensers, evaporative coolers and condensers, and heat exchangers.

Before rejoining Acme he aided in the development of room air conditioners for Remington Corp. and served on the engineering committee of the room air conditioner section of ARI.



Southern Church To Finish Air Conditioning Program

CHATTANOOGA, Tenn. — According to the pastor, Dr. Carl J. Giers, the First Baptist church here has awarded a contract for air conditioning the educational buildings. It is expected the work will be completed in early June.

"When the budget for the current year was adopted last September," Dr. Giers said, "the church voted to complete the air conditioning program which was started in the summer of 1950 when the sanctuary, lower auditorium, dining room and kitchen, the offices, and one large classroom were air conditioned. This modernization program has prevented a summer slump in the various organizations as well as at the worship services."

"The installation will make it possible to cool the nurseries during the week without air conditioning other parts of the building, and will also make it possible for any one floor or all of the floors to be cooled at the same time. In the section known as the Frances Willard Educational building, individual room units will be used."

Colwin Joins Unarco as Assistant to Stackpole

CHICAGO—Peter B. Colwin has been named assistant to Chester S. Stackpole, general sales manager of Union Asbestos & Rubber Co.'s heating and cooling division, it was announced recently.

Colwin will assist Stackpole in developing the company's newly-organized international sales organization.

Prior to joining Unarco, Colwin was with the United Jewish Appeal in New York as director of National Trades and Industry Div.



P. B. Colwin



ARDEN KRELL



MARTIN BELINE

Beline, Krell Are Typhoon District Sales Managers

BROOKLYN—New district sales managers are now functioning for Typhoon Air Conditioning Co., Inc. in two important areas, reports Mark E. Mooney, vice president in charge of sales.

Martin B. Beline is handling an eastern seaboard territory between New York City and Virginia, making his headquarters in Philadelphia. Arden Krell is supervising sales activities in California, Arizona, and New Mexico.

Beline has been in the air conditioning field for nearly 20 years, both as an engineer and as a salesman. He has extensive experience in packaged unit application. Beline was graduated from Stevens Institute of Technology.

Krell, a native of southern California, will headquarter in Los Angeles. He has been associated with a number of leading manufacturers in the air conditioning field and is a graduate mechanical engineer of the University of California.

Cincinnati Company Leases Warehouse-Office Property

CINCINNATI—Cincinnati Air Conditioning Co. has leased the warehouse and office property located at 1415 Walnut St., formerly occupied by Modern Distributing Co. Cincinnati Air Conditioning is local distributor for Carrier products.

The property has 12,000 sq. ft. of warehouse space, 4,000 sq. ft. of office space, and parking facilities for 50 cars.

Now! Wolverine Produces E-X-T-R-U-D-E-D Aluminum Tubing*



*Yes! Wolverine does e-x-t-r-u-d-e aluminum tubing (25, 35, and 635) in extra-long coils.

Write for your copy of Wolverine's handy Statement of Scope. It will tell you, for example, all about Wolverine products.

Design engineers in air conditioning and refrigeration have tagged Wolverine as an "all-in-one" source of supply for tubular products.

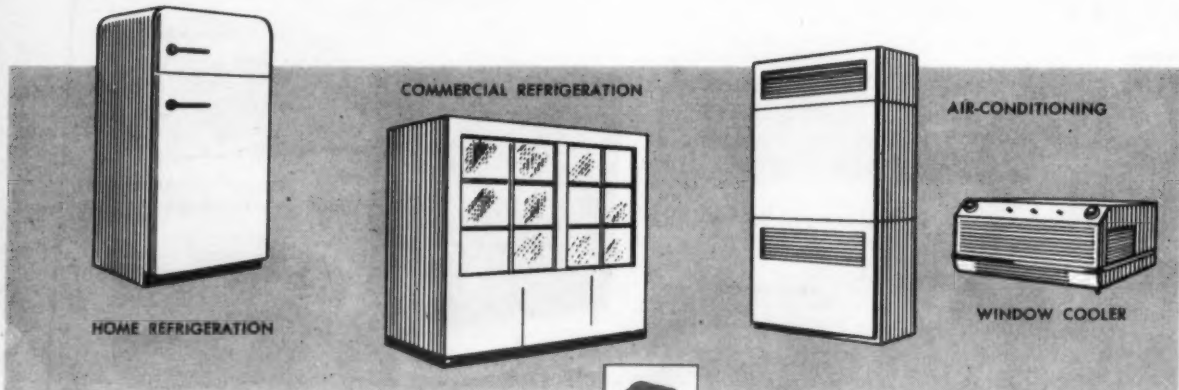
That's because they get exactly what they need at Wolverine.

For jobs which require weight and cost trimming—they specify Wolverine aluminum tube—either extruded or drawn.

For the "must" spots—they demand Wolverine copper tube—long an industry standard.

Engineers know in every case that they can get what they want—how they want it. For example, Wolverine provides flexibility: straight lengths or coils, soft tempers or hard, finned tube or plain. On top of that, Wolverine is able to fabricate tubing into the needed part—quickly, easily, and economically.

You'll find that Wolverine produces tubing in a complete range of sizes: copper and copper-base alloy tubing from 1/16" O.D. to 4 1/2" O.D.; aluminum from 1/8" O.D. to 2 3/4" O.D.; and electric-welded steel from 1/4" to 3" O.D. WOLVERINE TUBE DIVISION of Calumet & Hecla, Inc., 1413 Central Avenue, Detroit 9, Michigan.



HOME REFRIGERATION

COMMERCIAL REFRIGERATION

AIR-CONDITIONING

WINDOW COOLER



WOLVERINE TUBE DIVISION
OF CALUMET & HECLA, INC.
Manufacturers of Quality Controlled Tubing

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES

EXPORT DEPARTMENT, 13 EAST 40TH STREET, NEW YORK 16, NEW YORK.

HASTINGS THE FRESH AIR SYSTEM
AIR CONTROL
Air Conditioning

ELECTRIFYING NEWS!

The Exclusive
HASTINGS
COOL-PACK

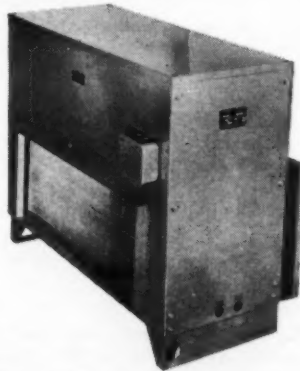
3 to 4 Tons Cooling
with 1 1/2 H.P. Compressor

SENSATIONALLY PRICED
TO THE TRADE **\$525**
AS LOW AS

AIR CONDITIONER for Home or Business

Look at these features

- Completely packaged unit with compressor and control circuit.
- May be attached to any furnace.
- Combination water and DX coil.
- 3 to 4 tons cooling capacity using up to 70° water.
- 1 1/2 HP, 220 V, 1 phase compressor — no power problems.
- Cools with up to 100% fresh air ventilation.
- Booster blower attachment available.
- Unit complete with blower is designed for business installations.

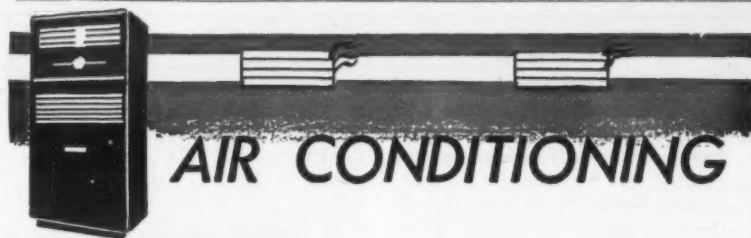


HASTINGS "COOL-PACK"—THE GREATEST MONEY MAKER

HASTINGS THE FRESH AIR SYSTEM
AIR CONTROL
Air Conditioning

IN THE COOLING FIELD

Write — Phone — Wire
HASTINGS AIR CONTROL, INC.
Dept. A-5
3215 Leavenworth St. OMAHA 5, NEBR. Phone JACKson 4422

**Definition Suggested****Unbalanced Voltage, Its Causes and Proposed Solution Discussed by AIEE**

SCHENECTADY, N. Y.—Voltage unbalance aggravated by the widespread use of air conditioning—use of single phase and three-phase electrical current from a single supply, was discussed at the northeastern district meeting of the American Institute of Electrical Engineers by A. S. Anderson, Ebasco Services and R. C. Ruete, General Electric Co.

There is a need "for a definition of unbalanced voltage which will receive industry acceptance," the two engineers told a symposium on transformers and capacitors, after reviewing the problem which arises from the widespread utility practice of serving both single-phase and three-phase loads simultaneously from 120-240-volt four-wire delta secondary circuits.

"The unprecedented growth of three-phase residential and small commercial air conditioning load in our southern states is extending this practice rapidly," they observed.

"The practice creates unbalanced load on the three-phase portions of the power system, hence customer service voltage on these systems is generally unbalanced to some degree. A reasonable amount of voltage unbalance should be tolerated to achieve optimum economy considering together all interests of the user, manufacturer, and supply utility."

The purpose of their paper, entitled, "Voltage Unbalance in Delta Secondaries Serving Single-Phase and Three-Phase Loads," was to:

1. Present equations for determining the unbalances in voltage in four-wire single and three-phase delta secondaries.

2. Stimulate interest which may lead to acceptance by manufacturers and utilities of some degree of voltage unbalance in the supply.

3. Promote a definition of voltage unbalance in a three-phase system which should eventually receive industry acceptance.

They observed that in the use of motors electrical engineers frequently make use of the service factor which allows for deviation from rated values of temperature, voltage magnitude, frequency, and mechanical load.

"It is customary, however," they said, "for manufacturers and many utility engineers to assume that the supply voltage is balanced in magnitude and phase angle. In many cases of unsatisfactory motor operation, the utility has

been blamed for unbalanced voltage where other deviations from rated conditions frequently not under control of the utility also existed.

"Large utility investments in transformer capacity have been made in innumerable such instances where the cost of other corrective measures would have resulted in lesser costs and more satisfactory installations. Acceptance of some degree of voltage unbalance as a fair allocated apportionment of the service factor resulting in a reasonable approach to a minimum over-all cost for all concerned should be the aim of a representative national group."

They defined voltage unbalance "as the ratio of negative sequence voltage to positive sequence voltage," terming it the "voltage unbalance factor."

"This," they said, "should be a suitable definition since it is based on the theory of symmetrical components, which concept has greatly simplified calculations involving unbalance. It is suggested that this definition be considered for adoption as an industry standard."

Air Conditioning In Tire Store Cuts Heat From Retreading Molds

DENVER—The first installation of mechanically refrigerated air conditioning in the Denver retail tire industry made its bow recently when Art Malnati, Inc. held a three-day "open house" at its new building at 2300 Arapahoe.

A 10-ton Frigidaire cooling system provides air conditioning for general offices, executive offices, employees' locker room, and a sporting goods and accessories store on the first floor of the 15,000-sq. ft. building.

The purpose of the air conditioning installation, according to Art Malnati, head of the firm, is to compensate for the high heat load which is produced by 14 heavy-duty retreading molds, located in a bay immediately adjacent to the offices.

During summer months when 100% outside air is introduced through the 10-ton system, it will be exhausted throughout the tire-mold room to appreciably reduce unpleasant temperatures, according to Malnati.

Recessed Packaged Air Conditioner Saves Valuable Floor Space**7½-Ton Unit Cools Philadelphia Coffee Shop**

PHILADELPHIA — Recessing the air conditioner into the wall helped save valuable floor space in Dewey's Famous Coffee Shop at Broad and Wood Sts. here.

When a 7½-ton General Electric packaged unit—a FD75G—was installed by Engineering and Refrigeration, Inc. here, it was set in the wall so that the front of the cabinet protruded only enough to permit the swing of the hinged front panels and to emphasize the rounded corners of the cabinet.

This is the second General Electric air conditioner for the Dewey organization. The company's restaurant at 17th and Market has a free standing FD100G unit.



PACKAGED UNIT is recessed into wall to conserve floor space.

Dunbar Drilling & Supply Opens Office In Toledo

TOLEDO — Dunbar Drilling & Supply Co., Delta, plumbing, heating, and air conditioning contractor, has announced the opening of a Toledo office, with Robert H. Miller to head it.

Miller will operate from 2670 Kenwood Blvd. He is a mechanical engineering graduate of the University of Toledo and formerly was associated with L. R. Twyman & Associates, Detroit.

Chattanooga Hotel Contracts For Airtemp Air Conditioning**Going Up!**

CHATTANOOGA, Tenn. — Garnett Andres, president-manager of the 410-room Hotel Patten here, has awarded a contract to the Southern Blow Pipe & Roofing Co. for complete air conditioning of the hotel.

Andrews said that work on the project, already under way, is expected to be completed by June 1. The Patten has no air conditioning in its rooms at present. All bedrooms and the lobby will be cooled by Airtemp's equipment.

MEMPHIS, Tenn. — Managing Director Scott J. Stewart announced recently that all 15 floors of the 400-room Hotel Claridge will be fully air conditioned by about June 1.

The Frick Co. has completed the air conditioning of all public spaces in the hotel and guest rooms through the sixth floor.

Stewart said the Frick concern now is working on air conditioning of hallways and guest rooms, from the seventh through the 15th floors.

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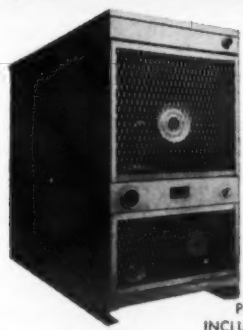
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Food Irradiation

Process May Have Wider Use In Preserving Refrigerated Foods Than In Keeping Uncooled Foods, MIT Professor Predicts

BOCA RATON, Fla.—"It seems likely that the irradiation of foods may have wider utilization in extending the storage life of foods kept under refrigeration than in preserving foods not kept under refrigeration," believes Prof. Bernard E. Proctor of Massachusetts Institute of Technology.

"The facts that enzymes are concerned in problems of food preservation and that enzymes are not easily inactivated by irradiation are, in part, responsible for this prophecy. Refrigeration is a great asset under such conditions," he told the National Association of Refrigerated Warehouses at its 63rd annual meeting here.

"It is well known that the conventional means of food preservation by application of heat may alter the flavor, color, and texture of many foods. Such alterations are sometimes advantageous, and many of them have been made acceptable by the changing food habits of American consumers. But for some food products it would be desirable if these alterations were less extensive, and the flavors of some foods, especially fruits and vegetables, are preferred in the fresh or uncooked state.

"Some improvements have been made with a number of food products to avoid these alterations in flavor, color, and texture by subjecting the foods to extremely high temperatures for a very short time. In recent years much research has been conducted to ascertain whether color, flavor, and retention of nutrients in processed foods can be improved by using a means other than heat.

Alternatives

"Among the alternatives that have been considered to attain this objective is the utilization of some of the electromagnetic radiations and high energy particles, such as ultraviolet light, infrared rays, X-rays, gamma rays, and cathode rays (electrons). Research has been conducted by several laboratories to investigate the efficacy of sterilization by these electromagnetic radiations, especially ultraviolet light, X-rays, and cathode rays, because little if any heat is produced when foods are irradiated by these rays.

"It has been found that ultraviolet light may have a sterilizing effect, but this effect is limited to the surface of foods. Ultraviolet light may also increase the vita-

min D content of milk, when applied to a thin film of the milk.

"X-rays can be used to destroy microorganisms such as bacteria in foods, but the process is inefficient from the standpoints of power efficiency and time required for sterilization. Starting about 1946, X-ray studies were conducted actively in our Food Technology Laboratories at the Massachusetts Institute of Technology.

"The net result was that a wide variety of foods were treated with X-rays, and it was found that they could be sterilized by this means. Many types of spoilage and disease microorganisms in pure culture were also exposed to X-rays, and observations showed that all were killed. The time required for sterilization by X-rays, however, was of the order of 15 to 30 minutes, which is far too long for an economic commercial procedure.

Earlier Research Repeated With Electrons

"At about the same time as our X-ray studies, a model of the Van de Graaff Accelerator was placed at our disposal, and much of the earlier research was repeated with electrons or cathode rays instead

Meats Pasteurized by Exposure to Gamma Rays

CHICAGO—Pasteurization of meat through exposure to gamma rays emitted by atomic fission products has been accomplished on a laboratory scale, it was reported recently by B. S. Schweigert, assistant director of the American Meat Institute Foundation.

Such experiments indicate, he said, that the shelf life of pre-packaged meats may be extended five-fold by the use of low radiation doses, with little, if any, production of off flavors, odors, or discoloration detected. Schweigert emphasized, how-

ever, that acceptability of such products after storage and cooking had not been adequately demonstrated. He said that many major scientific, technological, and economic problems still stood in the way of practical application of the process on a commercial basis.

Meats pasteurized with fission sources have been in a good condition for as long as three weeks under laboratory experiments, said Schweigert, while normally pre-packaged fresh meats are not held in refrigerated counters more than 3 days.

of X-rays. Use of electrons shortened the time necessary for sterilization—from minutes to seconds or fractions of a second—but decreased the depth of penetration of the rays from inches to fractions of an inch. This fundamentally new process of sterilization by cathode rays may be particularly suitable for many types of heat sensitive materials, including pharmaceuticals and foods.

"Cathode rays or electrons are tiny, negatively charged, elementary particles that swarm about the nuclei or minute cores of atoms, much as the planets move about the sun. Electrons for sterilization are readily released by heating a tungsten filament to several thousand degrees Centigrade. When electrons from such a source in a vacuum are acted upon by a high-energy electric field between two metal electrodes, they are accelerated away from the negative or cathode electrode and acquire the energy in volts that produced this field," he explained.

"In our investigations at the Massachusetts Institute of Technology, electrons are accelerated to energies of two, three, and four million volts by means of a Van de Graaff Electrostatic Accelerator. The electrons emerge from a tube into the air through a thin aluminum window. This continuous stream of high-energy charged particles may be directed at a conveyor belt loaded with the product to be treated. Sterilization can now be achieved as the final step in the manufacture of a food product by conveying the product on a moving belt through a stream of high-energy electrons.

Evidence From Cathode Ray Studies

"In our cathode ray studies, evidence has been obtained that all types of spoilage organisms in foods can be killed in brief intervals of time, a few seconds at most, in any type of food container, by application of cathode rays produced by Van de Graaff generators.

"The only limiting factor is the depth of penetration of the cathode rays, which is dependent on voltage. The penetration of cathode rays is approximately one centimeter for each two million volts of energy. This means that when 3 m.e.v. cathode rays are used, oblong sardine cans 16 mm. in depth must be exposed from both sides in order for the contents to be completely sterilized. A linear electron accelerator is now available that can produce 16 m.e.v. cathode rays having a depth of penetration of about 8.5 cm. With 16 m.e.v. cathode rays the contents of a No. 2 can (about 13 cm. in height) can be sterilized completely by exposing both ends of the can to the radiations.

"This sterilization is accomplished without any appreciable increase in the temperature of the product, and the nutritive value of the food and its vitamin content are not markedly impaired.

Individual Components Of Foods

"Having ascertained that food products can be sterilized by ionizing radiations (X-rays and cath-

ode rays), we next endeavored to determine what, if anything, happens to the individual components of foods such as vitamins, amino acids, enzymes, fats, and carbohydrates when they are exposed to these radiations.

"The protein components in foods, that is, the amino acids, have been found by microbiological tests to be practically unaffected by cathode rays. Fats and oils, however, tend to take on a rancid flavor, and some carbohydrate compounds are changed in flavor slightly when exposed to ionizing radiations," he revealed.

Enzymes Studied

"We have also studied enzymes, those organic substances that accelerate specific transformation of materials in plant and animal tissues. We found that the activity of enzymes is less readily inhibited by cathode rays than is the activity of microorganisms. The dose of cathode rays required for enzyme inactivation appears to be approximately 10 to 20 times that required for inactivation of microorganisms.

"This greater dose required for enzyme inactivation is a matter of considerable importance when one is considering the possibility of sterilizing certain kinds of foods, especially fresh fruits and vegetables and milk. The enzyme systems in such foods may produce gas atmospheres, with the development of carbon dioxide, or may cause chemical changes that result in the breakdown of protein, abnormal colors, and other abnormal conditions.

Degree of Concentration Plays Important Role

"Tests on vitamin A, carotene, vitamin C, several components of the vitamin B complex, and other vitamins showed that these are little affected by ionizing radiations when they are present along with considerable organic matter, such as foods. When these vitamins are irradiated in pure solution and in high dilution, however, ionizing radiations at a sterilization level cause severe damage. The factor of degree of concentration, therefore, plays a considerable role.

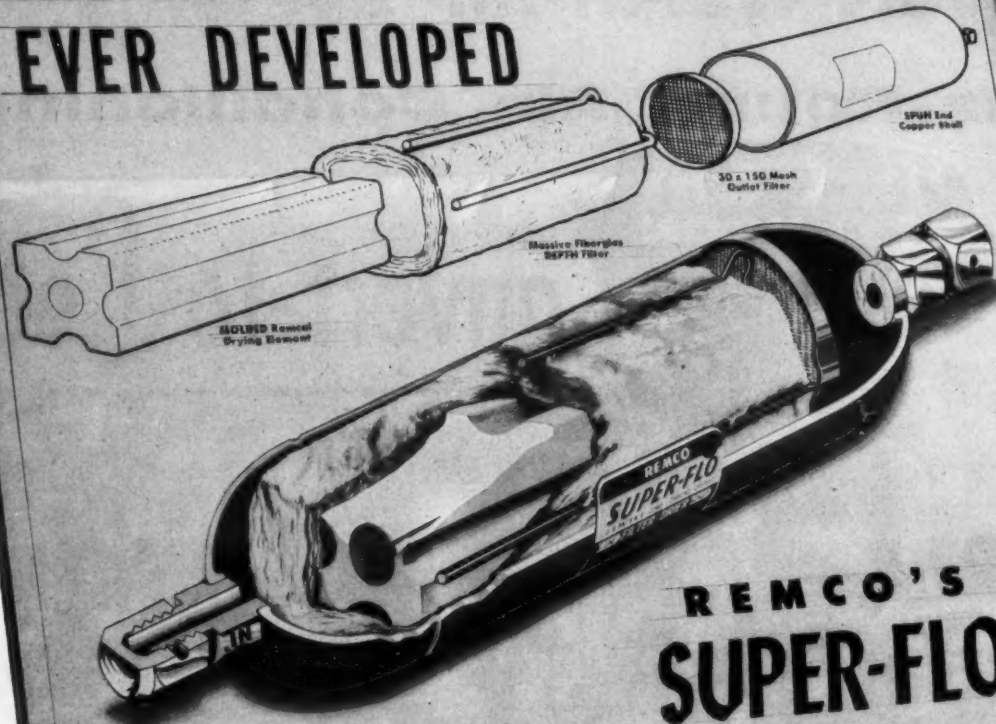
"In the course of our experiments with vitamins, we found that some of these compounds are much more sensitive to the destructive action of radiations (radiosensitive) when irradiated alone than when irradiated in combination with other compounds.

"Vitamin C (ascorbic acid), for example, is relatively radiosensitive and niacin is more radioresistant. Yet when a mixture of the two was irradiated, the niacin protected the ascorbic acid so that there was greater destruction of the niacin and a sparing of the ascorbic acid. The same phenomenon was noted with other vitamins studied singly and in combination.

"These unexpected findings have provided leads for the possible future use of protective agents in the sterilization of foods by cathode rays to minimize flavor changes resulting from irradiation.

"With respect to vegetables, considerable effort has been directed to determine what happens (Concluded on next page)

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Food Irradiation Study --

(Concluded from preceding page) to cellular tissues when vegetables are exposed to cathode rays. Microchemical techniques were used for this study. By means of a selective staining method employing ruthenium red as the stain, it appears that the pectin material in white potato and apples is converted in some way or possibly destroyed when the irradiation dose is very high," Prof. Proctor continued.

Packaging Materials

"Consideration has also been given to packaging materials. It has been found possible to sterilize various foods in every known conventional type of food container, namely, of metal, glass, or fiber, provided the limitation of depth is taken into consideration.

"So far as has been observed, the only container material adversely affected by ionizing radiations at a dose level sufficient to sterilize foods is glass. Usually glass is discolored by the rays. It is known that this discoloration can be prevented by modifying the components of the glass, but this would mean increased expense. If so desired, however, this discoloration of glass could serve as an index that ionizing radiations have been used to sterilize the material in the container.

"If desired, containers themselves can be sterilized while empty, provided their thickness is within the limit that can be sterilized at a given high voltage.

Side Effects Produced by Radiations

"We have found that when ionizing radiations are used to sterilize foods, side effects (chemical changes) are produced that cause changes in flavor, color, odor, and sometimes texture. Such changes have been minimized by irradiation of the food in inert gas atmospheres or under vacuum, and especially by irradiation of the food material in the frozen state. Unfortunately, however, such methods do not completely prevent these chemical changes.

"As a result of our finding that certain vitamins exert a protective action for other vitamins when irradiated together and from theoretical considerations of radiochemical phenomena occurring when ionizing radiations react with water, we have discovered a means for preventing some of these undesirable changes in color, odor, and the like in some food products and a means for minimizing others. Experiments are now actively in progress to determine to what extent this method may be effective in other foods.

Animal Studies

"When any new process is used for the sterilization of foods, one should make certain that the end product will not have any adverse effects on humans or animals. Animal tests to answer this question are now in progress in our laboratories and elsewhere. The approval of governmental control agencies, in this case the Federal Food and Drug Administration, is essential when any new food is offered for human consumption.

"Among the products other than foods that have been successfully sterilized by ionizing radiations are the following: Surgical sutures (no loss of tensile strength), sausage casings, tissues (aortas), cotton, surgical-type materials (bandages), toothbrushes, antibiotics (penicillin, streptomycin, etc., but not insulin), viruses, blood.

"It has been shown by other investigators that trichinae, the causative agent of trichinosis—a disease sometimes transmitted through pork that has not been properly cooked—can be killed by very low doses of radiations. For

this purpose, however, the use of refrigeration is probably a less expensive procedure.

"Annually in the United States a large quantity of grain valued at millions of dollars is lost because of the infestation of weevils, the prime pests of millers and bakers.

Chemical methods of killing these pests have not proved as efficacious as could be wished, and the use of heat is not possible because it injures the baking qualities of the flour.

Radiation Dose Kills

Germ That Attack Grains

"We have found that a relatively small radiation dose of cathode rays can be used to kill all known insects that attack cereal grains. Such treatment can be accomplished by passing the grain in a thin layer, on a moving belt, under an electron beam. The speed of the belt can be regulated so that the grain will receive the proper dose of cathode rays to kill adult insects, eggs, larvae, or pupal forms. Grain, flour, or other materials so treated must be protected subsequently from further insect infestation," he warned.

"It was also found that such doses of cathode rays as are needed for this purpose are below those that would adversely affect the germinating ability of the grains, if planted. The Army has recently expressed interest in having this feature explored further.

"Flour from wheat treated in this manner has been made under commercial conditions by a miller, and its quality has been found to be equal to that of an untreated, control batch of flour.

"Based on the energy requirements to accomplish this sterilization of cereal grain and the output of the more recent models of super-voltage generators, calculations show that one such machine should be able to sterilize the entire output of a modern flour mill at a cost of a fraction of a cent per pound of flour.

"Similar studies have shown the possibility of killing insects in spices and in cereal and fruit bars.

"Application of ionizing radiations has been found useful by medical men in the sterilization of blood vessels. Medical investigators in Boston have reported recently that blood vessels (such as aortas) sterilized by this process have been successfully transferred to patients requiring replacement of vital sections of such vessels. These sterilized materials can be stored for prolonged periods.

"This process may make possible 'banks' of sterilized blood vessels for emergency use, similar to our present-day blood banks. Great interest has been aroused among medical scientists concerning the possibilities of using this method as a means of extending lives. About twenty humans have now been successfully treated with new aortas transplanted from other sources.

Atomic Energy Studies

"Applications of the findings on foods are now being extended at the Massachusetts Institute of Technology to determine whether by-products of atomic energy can accomplish the same sterilizing effects on foods and other materials that have been achieved with the electrical equipment. In 1951 we were invited to participate in another aspect of the application of X-rays and cathode rays to sterilization in the food and pharmaceutical fields. There appear to be substantial quantities of radioactive fission by-products that might be used for sterilization purposes, if this were feasible. How large these quantities are is, of course, classified (secret) data.

"The unsolved problems in the use of radioactive fission by-products are even more in number than

those in the use of electrostatic accelerators, as the economics of such a sterilizing process can only be surmised, dependent on the costs allocated to this type of radioactive material. The disposal of such by-products or wastes presents an expense problem. If these wastes have to be subjected to separation or purification processes before they can be used for sterilization of foods and drugs, further expense will be entailed.

Primary Investigations With Gamma Rays

"Our primary investigation with the use of radiations (gamma rays) from a fission by-product was conducted with a mock source, namely, a kilocurie radioactive source of Cobalt-60, which was obtained through the Brookhaven National Laboratory of the United States Atomic Energy Commission. This kilocurie (thousand curies) source has an energy equivalent approximately that of an amount of radium worth about \$25 million at the current price level—more than the world's supply of radium a few years ago. However, this source is almost a toy compared with the three-million-electron-volt accelerators we have been using. In fact, the ratio of the energy of the Cobalt-60 source to the energy of the 3 m.e.v. accelerator is about 1 to 750.

"To sterilize milk in a small-sized container by means of this source would require the best part

Commercial Refrigeration

of a day. Hence this particular source may not be considered as a high-speed equipment. Nevertheless many fundamental facts may be determined by research with this source, facts on which may be based the design, the construction, and the operation of equipment having major potentialities," said Prof. Proctor.

"More recently, in fact since the beginning of 1954, we have been provided with a more powerful source of gamma rays, to continue these studies relating to food sterilization. Actually this more powerful source is composed of a mixture of the by-products from an atomic fission products plant.

"Our first job in comparing the effects of gamma rays with those of cathode rays and X-rays was to ascertain whether, unit for unit of energy, the same sterilizing or inactivating results could be obtained. Our answer to this is yes.

"Now I suppose I should try to sum up what all this means to you at this time. First, let me say that this endeavor is still in the research stage. Much is known, but there is still much to be learned. Encouraging results have

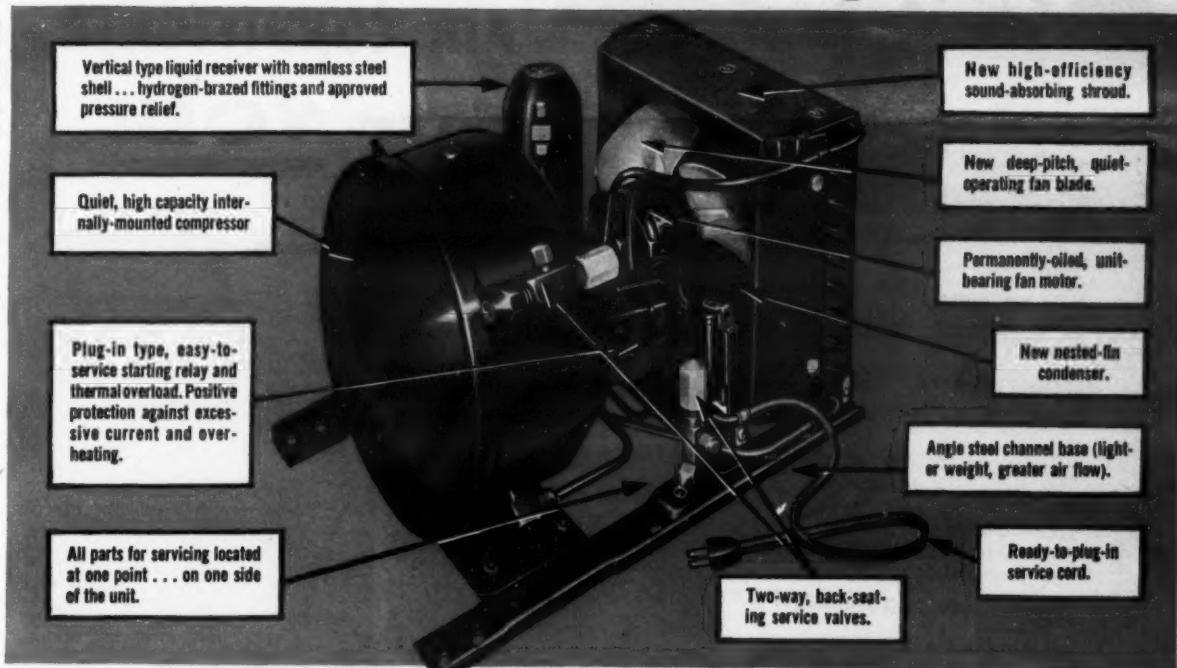
already been obtained, however, and much progress in this field may be expected in the future.

"The use of cathode rays presents interesting possibilities, although the installation and maintenance costs of the equipment producing these rays may limit the extent of such use. This is one of the reasons why this irradiation process is not currently used commercially by any food processor.

"Furthermore, the irradiation process may not be used by any food processor until it has met with the approval of the Federal food authorities. For this approval, feeding tests with animals are required, to demonstrate that foods thus sterilized have no adverse effects. Such feeding tests necessitate many months of work.

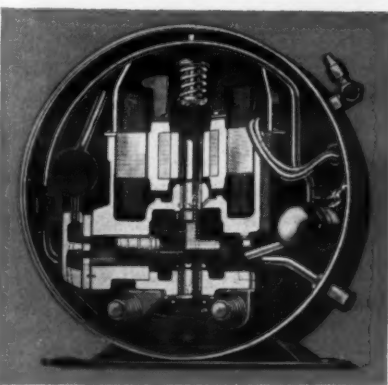
"Another limiting factor in the use of ionizing radiations for food preservation may be the undesirable color and flavor changes, which vary greatly dependent on the products irradiated. Means of minimizing certain of these undesirable changes have been found, but the flavor problem has not been solved in respect to many commodities.

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How Desert Dealer Sells Home Air Conditioning Against Competition of Evaporative Cooling

PHOENIX, Ariz. — Approaching the market from a number of unusual angles, Paul Schoonover, head of Arizona Air Conditioning Co., Typhoon dealer here, has sold a lot of refrigerated residential air conditioning against evaporative cooler competition, considered "standard" in this desert city's torrid summers.

Schoonover says he has created so heavy a volume of refrigerated air conditioning that he keeps a 15-man installation crew busy the year around.

INSTALLATION CREWS WORK AROUND THE CLOCK

"We have built up a heavy load of 5 and 7½ ton installations in the \$40,000 to \$80,000 homes being constructed in the Paradise Valley, exclusive new residential development here," he declared. "There has been such an increase in building here that we have had to make about 25% of the installations on a 24-hour-per-day schedule—keeping crews on duty the clock around, in order to meet deadlines."

"This is the sort of service which a contractor appreciates, and which has been directly responsible for a lot of unsolicited orders where larger homes are concerned."

Whenever he completes an outstanding installation in an expensive dwelling, Schoonover writes a complete, descriptive letter on the installation, together with copies of specifications, costs, etc., and circulates it among all building contractors, architects, and realty development firms here.

Such "direct-mail advertising" has been important in offsetting the general assumption in the Phoenix area that spray-type evaporative coolers are adequate to provide summer comfort when the thermometer often hits 110.

"Until 4 or 5 years ago, the average resident and most of the builders didn't think too much of the possibilities of mechanical refrigeration," Schoonover indicated. "Therefore, we have had an educational as well as a selling job to do all the way."

One of the worst obstacles in selling refrigerated air conditioning to prospects has been the high water cost in arid Phoenix. To offset this, Schoonover and other members of the local refrigeration association hammered away at the Phoenix city council for lower summer water rates for users of air conditioning. Last summer the council cut the water rate in half during the summer months. To sell

the lower-cost dwelling owner on air conditioning, Schoonover offers a 3-hp. Typhoon unit which can be installed complete for around \$1,600. Installation of an induced draft cooling tower adds some \$400 to the cost, but saves 90% of the water used and brings operating costs down to a rate comparing favorably with any other part of the country.

"The 50% reduction in water rates for homes equipped with air conditioning, of course, counts heavily, whether or not a tower is installed," Schoonover indicated.

REMODELING MARKET

In addition to new-home installations, Schoonover is building up the "remodeling market" which in Phoenix means homes equipped with central duct-system evaporative coolers.

While only a relatively small percentage of evaporative systems were installed with ductwork to every room, there are enough of them that Schoonover and a salesman spend a lot of time tracking them down. Wherever homes already ducted in this way are encountered, Schoonover can usually count on a sale.

"In effect, the home is already roughed in for mechanical refrig-

eration," he said, "and replacing the evaporative cooler with a 3 or 5-ton mechanical unit is a lot less costly for the homeowner. We are constantly on the lookout for homes which feature duct systems in this way, and we concentrate a lot of selling effort on each until the owner goes along with us."

Operating a large gas-heating department, along with his 12-man sheet metal shop, refrigeration service department, etc., Schoonover constantly encourages builders to "rough in" the heating system installation on new homes even though mechanical air conditioning may not be presently considered.

CREATING FUTURE MARKET

By leaving sufficient space in the utility room in which the furnace is located and utilizing adequately-sized ducts for later air conditioning, Schoonover is creating a "future market" for home air conditioning.

In fact, during 1953, Schoonover installed heating facilities for 1,100 houses, and in a substantial percentage of this number provision was also made for air conditioning.

"We have managed to get a lot of building contractors to see our point," he said. "By roughing in the heating system for air conditioning installation later on, the builder has an additional selling point which the customer can readily understand, and only a slight amount is added to the cost of the home."

ROUGHING-IN HELPS TO SELL AIR CONDITIONING

"Naturally, we try to sell the air conditioning installation where we deal with the homeowner, but in the event this isn't possible, we can, as a rule compromise upon the roughing in feature. Then whenever the homeowner decides to offset the uncomfortable heat of June, July, and August, it is a simple matter to install a 3 or 5-ton combination unit, right in the furnace room, with a minimum amount of effort and expense."

Whenever Schoonover receives the contract and sheet metal work in a new home, either he or his salesman attempts to contact the homeowner, where one exists, and to "talk air conditioning" from the outset.

Much of the selling system depends simply upon asking the prospect to hop in the Arizona Air Conditioning Co. sedan and to visit a few homes where the firm has made satisfactory air conditioning installations and to talk to the homeowner.

This "on-the-spot testimonial" type of selling has landed a lot of air conditioning contracts for better priced homes.

Southwest Corp. In New, Larger Dallas Quarters

DALLAS—Southwest Corp., retailer and installer of air conditioning and heating equipment, has opened for business in its new \$18,000 building at 1744 Proctor Rd.

The new building provides the company with 4,800 sq. ft. of floor space, doubling the firm's former quarters. James Malone and W. A. Ehrlich, Jr., are the owners.



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Residential Air Conditioning

John Gingerich Named Merchandising Manager At York-Shipley

YORK, Pa.—John W. Gingerich has been promoted from assistant merchandising manager to merchandising manager of York-Shipley, Inc., according to S. H. Shipley, president, York-Shipley, Inc. here, manufacturer of York-Heat automatic heating equipment and Shipley "Homeaire" conditioners.

Gingerich will direct the advertising and merchandising of all York-Shipley divisions, including the Residential, Industrial, and General divisions, as well as supervise the merchandising activities of these York-Heat distributing operations: Shipley Heating & Cooling, York; York-Heat of Boston; York-Heat of Connecticut; York-Heat of Maine; and York-Heat of Charlotte.

Gingerich joined the York-Shipley organization three years ago as advertising manager of the Shipley Cooling & Heating retail division serving York and York county, Roosevelt Oil Service, petroleum division, and Shipley Cooling & Heating wholesale distributor in Pennsylvania, Delaware, and New Jersey. Six months later, he became assistant merchandising manager.

Before joining York-Shipley, Gingerich served for two years as production manager of The W. H. Long Co., Inc., York, Pa. advertising agency for York-Shipley.

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Designed for the longest life in the field—built to the highest quality standards in the industry, Ingersoll-Rand Motorpumps for air conditioning stand up longer—perform better—require less maintenance—than any other—at any price. Prove it to yourself. Use the handy coupon below to get complete information . . . then try Motorpumps on your next jobs . . . for better customer satisfaction—more profits for yourself.

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MOTOR PUMP

Gentlemen:
I would like to know more about how the Motorpump line can improve my jobs, help cut my costs. Send me details.

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9-61

These Features Will Sell-

Barkow

WEATHERWISE AIR CONDITIONER For YOU!

THEY EXCEED RATED CAPACITY PROVIDE ACCURATE HUMIDITY CONTROL

Special fin design effects greater dehumidification

EASY TO SERVICE

All parts accessible from front panel

WASHABLE FILTER SCREENS

Easily removed for thorough cleaning

COMPACT

Occupy minimum floor space

SELF-CONTAINED UNIT

With water regulator and magnetic starter

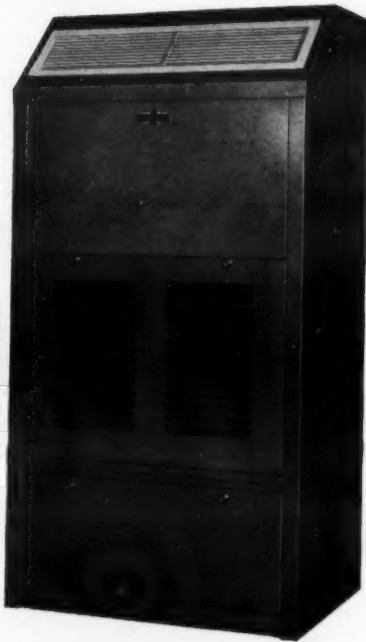
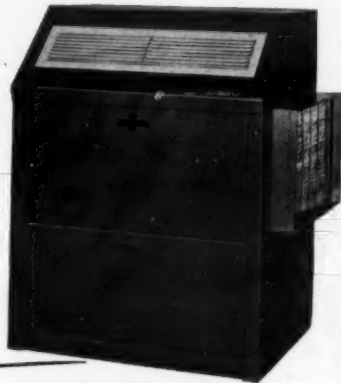
LOW WATER REQUIREMENT

COMPLETE PACKAGED UNIT

ALUMINUM FIN EVAPORATOR

Copper tube with capillary tube

CU Series
2, 3 and
5-Ton Sizes



Even a casual glance at this list points up important reasons for Barkow's outstanding success in commercial air conditioning. Add to these, Barkow's advanced engineering which includes sealed compression with Freon 22 refrigerant, counterflow cleanable type condenser suitable for cooling tower application, and thermostatic control—high-pressure cutout thermal overload and low-voltage protector,

and you have a combination that assures complete efficiency, economy and lasting customer satisfaction.

Available in 2, 3 and 5-ton sizes either with plenum or without plenum for ductwork. The return air section of the 5-ton unit is from front to rear with front air discharge grill. This model is also available with steam or hot air coils.

Barkow weatherwise units are favorites when replacements are made.



Valuable Exclusive territories available.

Write or wire for complete details.

refrigeration division

Aug. G. Barkow Mfg. Co., Inc.

2230 South 43rd Street

Milwaukee 15, Wisconsin

HOUSEHOLD REFRIGERATION

Colored Kitchen Appliances?

Pro: Color Makes the Kitchen Into More Livable Space, More Cheerful Place

NORTH CHICAGO, Ill.—A current upswing in the use of color in the kitchen reflects a radical transformation which is making the kitchen "a living space rather than strictly a functional food factory," says Paul R. MacAlister of Chicago, noted color and design consultant.

Pointing out that over the past 50 years the American kitchen has undergone basic changes in every aspect, he says:

"In the days when food preparation was mostly an arduous chore, the kitchen had the appearance of gloomy monotonous. When modern appliances came along to relieve drudgery, crisp white came to the fore, symbolizing efficiency and cleanliness. And now new color treatments are entering the scene to emphasize the livable kitchen."

"Today's kitchen is an important part of the background of the homemaker and hostess," MacAlister adds. "The percentage of families who regularly dine in the so-called kitchen area is on the increase; the entertaining of guests actually takes place there; and even the television set has been installed there."

"Small wonder, then, that color

in the kitchen is on the upswing. Color is an emotional stimulant that takes the boredom out of daily tasks, de-emphasizes the heat of cooking and baking, and creates a cheerful and happy atmosphere in which to work and live."

In the opinion of this color and design expert, all colors are appropriate for kitchen use when selected with an eye for exposure, equipment colors, and personal tastes. He says that the "cool, clear tones," with a few accents of bold, warm colors, can be varied to suit any kitchen plan.

Manufacturers of products for the kitchen recognize that present-day living patterns call for new applications of color. MacAlister pointed out that refrigerators and some home freezers in the 1954 line of Deepfreeze home appliances have all-color interiors of a cool green, with contrasting colors inside and out.

Green, with its variations, is a color which MacAlister describes as one of the "cool, clear tones." He observes: "As a background for foods, cooked and uncooked, these colors produce an appetizing setting. Salads and fruits look fresher, and roasts look richer."

Con: Colored Appliances Are Too Confining; Keep Kitchen Functional, Workable

NEW YORK CITY—Industrial designer Walter Dorwin Teague advised gas range manufacturers here recently against selling colored kitchen appliances.

Living room color standards should be kept in the living room, he declared at the fifth annual automatic gas range conference of the Gas Appliance Manufacturers Association here.

"I don't hold with slip-covered refrigerators, and a range that looks like anything but a very superior cooking device should be rejected on sight," he asserted.

"Imagine being stuck with a lump of color of that size for the duration of a major appliance's

life—10 years or more," he said.

Manufacturers attending the conference agreed or disagreed with Teague generally according to whether or not their company was producing colored appliances.

Those favoring color pointed to the growing public demand for colored appliances. One manufacturer's representative favoring white noted that consumers with white refrigerators would not buy colored ranges. Another manufacturer felt that his company had struck a happy medium by incorporating colored door handles.

Problems of inventory and replacement parts were cited by another producer.

1954 HOME FREEZER SPECIFICATIONS

WILL BE INCLUDED IN THE MAY 31 ISSUE OF AIR CONDITIONING & REFRIGERATION NEWS

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AIR CONDITIONING & REFRIGERATION NEWS

450 W. Fort St., Detroit 26, Mich.

Gentlemen: Reserve in my name copies of the May 31 issue of Air Conditioning & Refrigeration News containing HOME FREEZER SPECIFICATIONS for 1954. Please ship these to me at the address given below as soon as possible.

☐ Payment enclosed ☐ Bill company

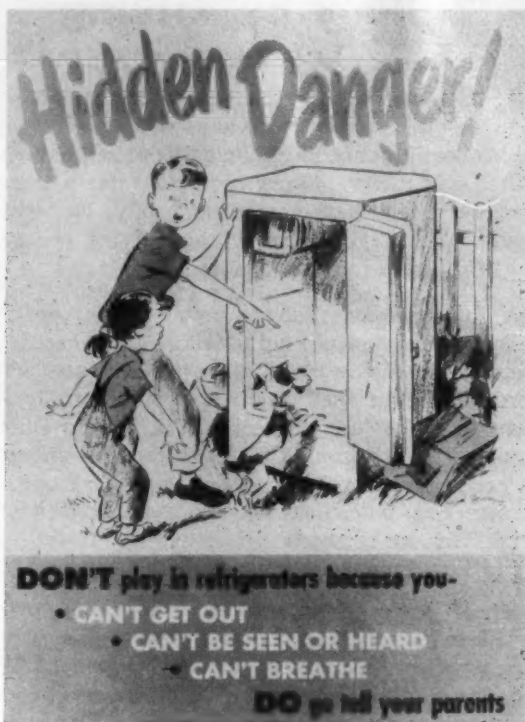
Name

Company

Street

City Zone State

5-24-54



Helps Children Avoid Danger

THIS 8 by 11-in. poster points out to children dangers of abandoned refrigerators and freezers. Issued by the National Safety Council as part of the "Discarded Refrigerator and Freezer Safety Drive," the poster is available at 5 cents a copy. Orders can be sent to NEMA, 155 E. 44th St., New York 17.

Sees Trend Toward—

Larger Refrigerators, More Frozen Food Storage Space

DAYTON—A one-week concentrated sales drive was recently conducted by Frigidaire Div. of General Motors.

Herman F. Lehman, general sales manager, said the six-day campaign was aimed at "sounding the depth of today's market." It covered major appliances, air conditioning, and commercial refrigeration products.

In describing sales possibilities for refrigerators, he said that important changes in the food-buying habits of American homemakers during recent years have created a demand for larger refrigerators with generous frozen food storage capacity.

Refrigerators with 9 cu. ft. of storage capacity or larger are more than three times as popular today as they were just seven years ago.

As a result of this trend, plus the increased sale of food freezers, the frozen food storage capacity in the average American home today is seven times greater than in 1946, Lehman said.

Refrigerative Supply Opens Branch

SEATTLE—Refrigerative Supply, Inc. here recently opened a new branch, its seventh, at Yakima, Wash., Harold G. Stern, president, has announced.

Another ROCHESTER PRODUCTS ACHIEVEMENT

SEND FOR FREE BROCHURE
This new, illustrated, fact-packed brochure tells how GM Steel Tubing can help solve design and production problems. Send today for your free copy.

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PRODUCT
DESIGN FILE
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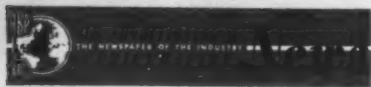


ROCHESTER PRODUCTS DIVISION OF GENERAL MOTORS
ROCHESTER, N. Y., U. S. A.

ALSO MANUFACTURERS OF ROCHESTER CARBURETORS AND ROCHESTER CIGAR LIGHTERS

Records show that in 1953 Rochester Products built and sold enough completely formed GM Steel Tubing Condenser Coils to equip MORE THAN HALF of all the household refrigerators that were sold in the U.S.A. during that year. Here is evidence that GM steel Tubing is helping more and more refrigeration manufacturers to build better products, faster, for less money.

Why not let us do the same for you!



Trade Mark registered U. S. Patent Office; Est. 1928.

F. M. COCKRELL, Founder

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MAY 24, 1954

Selling by Giving

(Guest editorial by William P. Mackle)

THERE ARE many things a dealer can give to create and retain consumer interest. But none is as effective as the things he can give which cost him nothing. What I have in mind is not money or things that cost money. Every individual has a treasure chest full of priceless gifts that money can't buy, but which brings greater results than if you were actually giving money or costly gifts. The gifts I have in mind are as follows:

The gift of attention: Shower your prospect with attention. If he is talking—listen while he is talking, but keep thinking of what you are going to say based upon his logic and words. Dwell on his words. Take in their meaning. Attend to him in every possible way to make him appreciate the terrific amount of attention you are giving him. You learn from your customer all the things necessary to make a sale if you pay attention and let him appreciate how much attention you are paying to him and his thinking. Even make notes in his presence to let him feel the attention and how important you consider statements he makes.

The gift of praise: Man's greatest desire is to be praised. Everybody likes it including yourself. This being true, why not praise your prospect? Anything you say that compliments him brings him closer to you and makes it easier to get all the time you need to put across the sales message. Forget yourself entirely and appear to be thinking of the prospect's interest only. Remember, however, that praise is never praise unless it is genuine and appropriate. Praise does not mean idle flattery because any smart person can detect it and he will avoid the flattery.

The gift of consideration: The greatest of all gifts perhaps is consideration. Through it you put yourself completely in the prospect's place. In this way you will conduct yourself so that he will actually see that you realize his position and problems fully.

They'll Do It Every Time Jimmy Hatlo



A prospect's strong resistance to a salesman comes from bitter lessons of experience. If you talk about yourself, your product, your own desires and emotions and never about his and his requirements, he will be convinced that you are going to show him no consideration.

The gift of courtesy: Courtesy always pays. Lack of it never pays. You must admit constant practice of courtesy has never handicapped anyone in any way whatsoever. You can't be courteous if you insist to yourself that you are more important in every way than the prospect. There was an old rhyme that one time went about like this "Kindness is to do and say the kindest things in the kindest way," and kindness is the essence of courtesy. Never have an argumentative attitude. Never be sarcastic. Many sales people try to be too clever when they can be more clever if they are more courteous.

The gift of concession: Always concede to prospects, their points, rather than argue with them when they feel they are correct. Sometimes prospects will attack your merchandise. By thinking quickly and being sure your sale cannot be damaged, concede certain points to their thinking. It is always good to remember, let the prospect be the victor. Give by conceding. It costs you nothing and can bring you everything.

The gift of assurance: Nothing is so effective to develop confidence in others as an air of assurance on your part. Don't say "I think." Don't turn statements into a question by letting your voice raise at the end of a sentence so that everything you say poses a question. You never need to raise your voice or to insist on any point you are making. Simply remember to say what you do to a prospect with full assurance that you know exactly what you are talking about.

Assurance can be developed by having faith in yourself and your opinions as well as faith in the goods you are selling or promoting.

The gift of confidence: The world's best salesmen are the nefarious, ignoble, despised confidence men. The confidence man almost in every instance gets his man. He came by the name "confidence man" because of an ability to put over his deals by relying entirely upon confidence. He gains his victim's confidence first, and has complete confidence in himself that he can do what he has set out to do. I don't mean for a salesman to be a "con man," but don't be afraid to have complete confidence in your sales work.

It is a gift of faith in your product and yourself, and when you know the product thoroughly you can present it with that kind of confidence that the prospect will appreciate and through it he will eventually buy from you.

The gift of inspiration: You can change a prospect from ordinary to extraordinary if you inspire him by being enthusiastic in every way. Be enthusiastic about the product. Be enthusiastic about what it will do for him and reflect that enthusiasm in your every expression. Enthusiasm is a very contagious thing and if you reflect it, your prospect soon will become enthusiastic too.

The gift of service: A good service department, properly conducted, pays big dividends. Always maintain A-1 service. When you serve you gain. Be ready at all times to serve a prospective purchaser in every way. Give the prospect a hand at every turn.

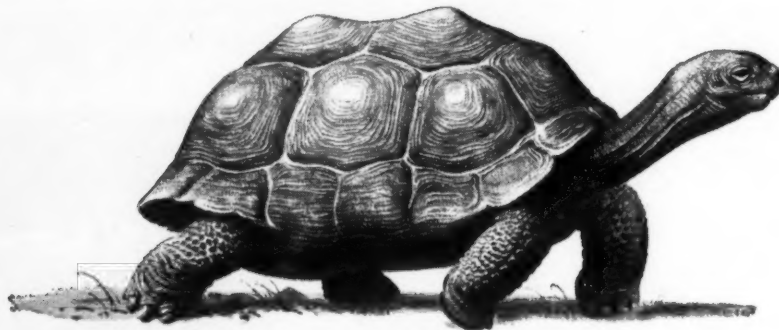
The gift of friendship: You don't have to be a hale-fellow-well-met to have a host of friends. Be the dealer who instinctively puts people in his debt by doing them a favor. Develop the kind of friendships that pay off.

The gift of gratitude: Show your gratitude by thanking prospects for visiting your store. Show your gratitude in every way you possibly can, and express constantly your thanks to them for permitting you the opportunity to serve them.

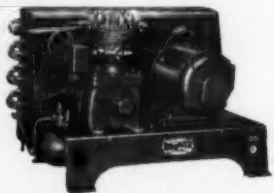
People like to buy from grateful sales people. In fact, gratitude is the most worthwhile gift a person possesses.

You constantly sell on credit terms. Make the customer feel it's a gift. You have many other gifts not covered. Use them. Giving is the essence of selling, and selling is the main aim in a salesman's life.

dependability and long life



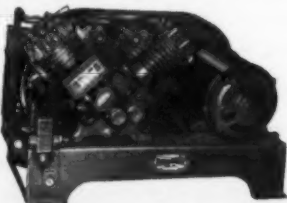
... two important advantages of the Brunner SLOW-SPEED compressor



BRUNNER AIR COOLED CONDENSING UNITS
... from 1/4 H. P. to 3 H. P. (F-12)



BRUNNER COMBINATION
AIR & WATER COOLED CONDENSING UNITS
... from 1/4 H. P. to 3 H. P. (F-12)



BRUNNER WATER COOLED CONDENSING UNITS
... from 1/4 H. P. to 75 H. P. (F-12 and F-22)

There's a good reason why the famous Brunner Slow-Speed Compressor is so popular with refrigeration men all over the world. Because it operates at speeds much slower than most other compressors of the same capacities, the Brunner unit does more work with less costly motion—resulting in less wear on working parts, less maintenance required—and lower operating costs, too.

That's why Brunner Refrigeration is unequalled for dependability and long service life—and why you should consider Brunner to provide more satisfaction to your refrigeration customers. In the big Brunner line, you'll find a complete selection of refrigeration condensing units (F-12 and F-22) to handle any requirement—big or small.


Plan Now To Sell Brunner—see your Brunner representative or write us for complete information on the profit opportunities in Brunner Refrigeration...

BRUNNER MANUFACTURING CO., Dept. A-544, UTICA, N. Y.
The Brunner Co., Gainesville, Ga.
In Canada: Brunner Corporation (Canada) Ltd., Toronto, Ontario

BRUNNER means more in '54



BRUNNER REFRIGERATION IS ADVERTISED IN THE SATURDAY EVENING POST



Service & Supplies

How To Sell Replacement Equipment

Have Proper Tools, Know-How, Explain to Customer What You Are Doing and Why, Above All Be Honest

FLINT, Mich.—In selling replacement equipment "use straightforward methods so that later your own words can't back you into a corner," the Michigan State RSES association was advised at its fifth annual meeting here by Charles M. Heathman, Chicago district manager for Servel's Commercial Refrigeration Div.

Several suggestions for success in selling were offered by Heathman, who reminded the group that "the three necessary requirements for going into business are a certain amount of capital or credit, or both; adequate know-how, and the right personnel, regardless of the size of the company—from a one-man operation to a firm of several employees.

"Under 'know-how' we should include knowing how to influence properly public opinion in your favor. If you're in business, you depend on good public relations for your very existence even if you're a one-man company," Heathman emphasized.

"If I were in business for myself, I'd make sure I wore clean clothes, had a haircut and shave. Appearance has a lot to do with successful selling. Make sure your windows are clean, for example.

And be punctual. Make that service call when you say you will."

When selling replacement parts, be sure to show the customer just what is wrong and explain why the part has to be replaced, he advised.

"Don't let the customer think you've sold him anything he doesn't need. Take the replacement part you're going to install out of the original carton in his presence. And then let the customer keep the old part. This helps convince him that he's not getting used equipment. Many of the public think they have been taken many times by unethical practices of the refrigeration trade.

"When you're on a service call look around at the other refrigeration equipment. Listen for noisy units, etc. If there's a dirty condenser, clean it for free. This makes a good impression on the customer and it will pay off in dollars and cents," Heathman declared.

He urged servicemen to do all they can to make sure that refrigeration and air conditioning equipment is properly installed.

"If window air conditioners, for example, are improperly sold or installed, regardless of who does it, it will affect your own income. You would be surprised how many sales are the result of word-of-mouth advertising."

Unfavorable reports likewise hurt sales, he emphasized.

"There is a terrific replacement market for hermetics just now beginning to develop. For just a few dollars more, you can install a hermetic instead of repairing an old open job," Heathman said.

"Hermetics could be used, for example, to replace old open compressors and motors and still use the existing condenser. The system must be carefully cleaned, however.

"There's no use to fight hermetics, but you do need the right tools to work on them. You can't do work on hermetics without having a voltmeter and an ammeter, for example. It's also a good idea to use recording instruments on all repair jobs. These will save a lot of time."

Heathman also called attention to the increasing amount of scientific equipment requiring refrigeration which is coming in use today. This offers new opportunities for local service firms prepared to work on such equipment. Maintenance contracts, he added, can be a profitable source of service work.

Bush Appoints Three New Sales Engineers

W. HARTFORD, Conn.—Bush Mfg. Co. has announced the appointment of three new sales engineers.



C. G. Zakoian



David Dufur

Earl S. Bates will cover the Washington, D. C., Virginia, and Maryland area. A graduate of Mass. Institute of Technology, he is a member of ASRE, an associate member of the American Society of Naval Architects and Marine Engineers, and a civil member of the Society of Naval Engineers. Prior to joining Bush, he had been eastern sales manager for Fedders-Quigan Corp., and most recently was manager of Sunroc Co.'s New York office.

C. G. Zakoian will work out of

the Bush Chicago office, covering northern Illinois and Wisconsin. A graduate of the University of Illinois with a mechanical engineering degree, he served in the U. S. Navy during World War II and the Korean conflict, and has been a sales engineer with Fairbanks-Morse.

David Dufur will work out of the Bush west coast office, covering Washington, Oregon, Idaho, and British Columbia. He specialized in engineering at Oregon State college, was with Harris Ice Machine Works as a design engineer, and later served as an application engineer with Peerless Pacific Co., according to the announcement.

A-P Vice Presidents



DEL MOERICK



A. L. TOPP

APPOINTMENT of Del Moerick as vice president, sales, and A. L. Topp as vice president, engineering, was announced recently by R. W. Johnson, president, A-P Controls Corp., Milwaukee.

Vehue Again Heads Service For Page Air Conditioning

CHARLOTTE, N. C.—Jesse W. Page, Jr., president of Page Air Conditioning Co., recently announced the return of Joseph A. Vehue as service manager.

Vehue was service manager of the company until 1950 and assisted Page in building up one of the first complete air conditioning service departments located in the south.

This department is designed especially to give all Page customers air conditioning service 24 hours a day.

Page has been in the air conditioning business here for the past 17 years.

Contractors Hear Trane At Larson Supply Meeting

ALLENTOWN, Pa.—Leon Trane, sales engineer for Bush Mfg. Co., was guest speaker at a recent educational meeting sponsored by Larson Supply Co. here.

The program covered the sizing and application of commercial forced air units with emphasis on automatic defrosting as it pertains to medium and low temperature units.

Utilizing a demonstrator, Trane described the operation of "Therm-O-Cycle," the Bush hot gas defrost system. In attendance were 33 contractors plus representatives of Larson Supply Co.'s Allentown and Reading branches.

YOUR SALES WILL SOAR IN FIFTY-FOUR

... WITH THESE NEW
MUELLER BRASS CO. PRODUCTS.
KEEP YOUR EYE ON CUSTOMER
SATISFACTION WITH THIS COMPLETE LINE.

Buy Peerless FOR PERFORMANCE

**Faster-Freeze
Finned
Cube Makers**



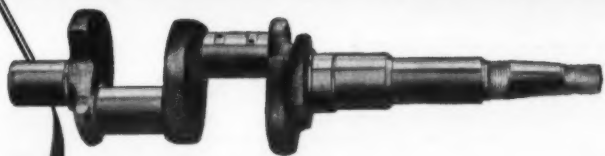
The PEERLESS Finned Faster-Freeze Cube Maker provides both refrigeration and rapid ice-cube manufacture from a single, balance, compact unit. Its fin coils are standard PEERLESS coils with nonsoldered return bends... the ice-cube maker is standard PEERLESS all-aluminum construction. Easy installation and trouble-free operation are outstanding features; these Finned Cube Makers are available with either copper or aluminum tubing, permitting choice of refrigerants. Plain type cube makers also available. Sizes, capacities for all requirements. Designed to meet government specifications. Write for details.

Peerless of America, Inc.

1501 No. Magnolia Avenue
Chicago 22, Illinois, U.S.A.

SINCE 1924...

SHAFTS by MODERN



Shafts by Modern power compressors for the country's leading lines of commercial refrigeration. For precision SHAFTS, in quantity, consult...

Modern Machine Works, Inc.
Pioneer Shaft Manufacturers
5354 S. KIRKWOOD AVENUE
CUDAHY, WISCONSIN



Globe Type Line Valves Straight-Flow and Angle Types

Angle Type Cartridge Drier-Strainer

New "GUARDMAN" Drier

Double Port Extended End - Copper Tube Body Liquid Indicators

Single Port Extended End Liquid Indicators

Driers and Filters

Wrot Copper Fittings and Copper Tube

Flare Fittings

Liquid Indicators

Valves

Be sure to get details on these new members of the great Mueller Brass Co. family of STREAMLINE refrigeration products as well as the addition of many new sizes to some of the present items with which you are already familiar. They're ready now to help you make your sales "soar in fifty-four"! ASK YOUR WHOLESALE.

MUELLER BRASS CO. PORT HURON 9, MICHIGAN

What Was New

At the National Restaurant Show

(Additional pictures taken at the National Restaurant Exposition at Chicago's Navy Pier recently, appear elsewhere in this issue.)



CARRIER'S new ice maker that produces cubes as well as three different grades of crushed ice is demonstrated by Frank Porter, sales promotion manager of Carrier's Cincinnati branch. It may be used interchangeably with bins of 100, 160, and 240 lbs. capacity. KEY NO. D-5427.



DEMONSTRATING THE SLIDE OUT shelves on the new "Sno-Queen" line of commercial refrigerators and freezers made by Victory Metal Mfg. Co. is model Joan Van Pelt. All parts used in the white enamel exterior line are interchangeable with units of the company's aluminum "Sta-Kold" and "Vimco" stainless steel lines. KEY NO. D-5428.



ALBERT FOGEL, president of Howard Refrigerator Co., Inc., poses with his firm's new all-purpose Bain-Marie "Elite." It combines 4-cu. ft. refrigerator, refrigerated sandwich unit, beverage cooler, and water dispenser in one unit. KEY NO. D-5429.



MARBLE-TOPPED PIZZA-RATOR with refrigerated compartment for holding pans of pizza pies below is shown by Charles Buday, president of Stainless Food Equipment Co. to Harry A. Caplen of National Products Co., Philadelphia. Laminated maple or stainless steel tops are also available. KEY NO. D-5430.



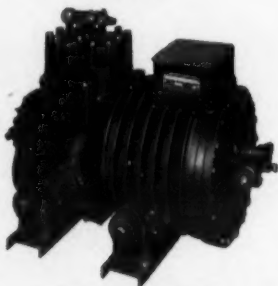
SHELVES IN THE DOOR and elimination of the center mullion without the loss of a tight seal are features of this new cold food unit introduced by Stanley Knight. J. A. Silander, Stanley Knight sales manager, points out features to Charles E. Neff, Jr., and Mrs. Neff of Neff Restaurant, Los Cruces, N. M. KEY NO. D-5431.



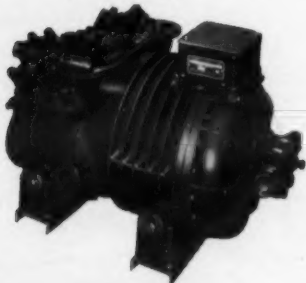
MODEL PL-32
Low Temperature
1/2 HP. Single-Cylinder



MODEL PM-99
Medium Temperature
1 HP. Twin-Cylinder



MODEL PH-300
High Temperature
3 HP. Twin-Cylinder



MODEL PH-500
High Temperature
5 HP. Four-Cylinder

add the EXTRA "SELL" that's EXCLUSIVELY SERVEL!

Servel SUPERMETIC

HERMETICALLY SEALED POWER UNITS

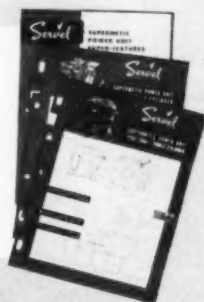
for fixtures that deserve the best

AVAILABLE WITH REFRIGERANT-COOLED MOTORS
AND FORCE-FEED LUBRICATION

- ... for high, medium or low temperature applications
- ... for expansion valve systems (1/4 to 7 1/2 HP models)
- ... for capillary tube systems (1/4 to 3 HP models)

Don't shortchange the sales chances of otherwise superior fixtures by your choice of power units! Check Servel SUPERMETICS — for weight-free, space-saving design — for quiet operation and high-capacity performance — for low-cost protection provided by Servel's Factory Warranty. That's the kind of quality features you will find in every SUPERMETIC. The more exacting your power unit requirements, the more important it is that your fixtures should be "Powered by Servel Supermetics!"

WRITE NOW
For Free Literature
Ask for
SUPERMETIC
Power Units Model Sheets



SERVEL, INC.
COMMERCIAL REFRIGERATION DIVISION
EVANSVILLE 20, INDIANA

THE NAME TO WATCH FOR GREAT ADVANCES
IN REFRIGERATION AND AIR CONDITIONING

Servel



FREEZER DISPLAY CASE with automatic defrost for restaurant operators who sell their specialties in frozen form for take-out is offered by Kelvinator Div. of American Motors Corp. The case is made for Kelvinator by Authorized Cabinet Co. of Manitowoc, Wis. and is marketed under the Acco-Kelvinator label. L. Jack Gage, commercial advertising manager for Kelvinator (r.) explains the deal to Win Schuler, Michigan restaurateur. KEY NO. D-5433.

JORDON'S new two-temperature combination freezer-refrigerator with 8 cu. ft. of normal temperature space and 10 1/2 cu. ft. of freezer space was shown by Jordan Refrigerator Co., Inc. It took two—Samuel Benn (l.), Jordan representative in Louisville, and F. Wagenseller (r.), Jordan Illinois manager, to demonstrate the unit to Dennis Swarmer (center), of Swarmer Restaurant Supply in Pittsburgh. KEY NO. D-5432.



YOU CAN EARN "KING SIZE PROFITS"

SELL THIS NEW
MODEL LC40
Lipman
ICE TIP MACHINE



WANTED BY HOTELS,
RESTAURANTS, FOUNTAINS, BARS

Here is the answer to all ice cubers... the Lipman Ice Tip Machine! Big capacity, safe storage, automatic control of size of ice tips... everything the trade has asked for!... It sells fast... pays you extra profits. Write Lipman Division of Yates-American, Beloit, Wis., for complete specifications.

TERRITORIES
AVAILABLE!

LIPMAN REFRIGERATION
Division of YATES-AMERICAN

Gentlemen: I am interested in selling Lipman Ice Tip Machines. Please send information.

FIRM NAME _____
INDIVIDUAL _____
ADDRESS _____
CITY _____ STATE _____

WRITE
TODAY!



EVERY DROP OF MILK is constantly refrigerated in Sunroc Co.'s new milk dispenser. E. Moore, district manager for Sunroc Mid-western Corp. (r.) explains to Elwin Knecht of Emmanuel Mission college cafeteria, Berrien Springs, Mich. Sunroc's single service tubes are cut to exact length and shed all condensate water that would otherwise run down the tube and drip into the milk. KEY NO. D-5434.



PULLING OUT THE REFRIGERATED DRAWER in Bastian-Blessing's new grill stand is Bert Lawson, of the Arnett Co., Ltd., Toronto, Canadian manufacturer of Bastian-Blessing equipment. The drawer, which is slanted so that it will slide closed automatically, holds hamburger patties for short order cooking. KEY NO. D-5436.



ROBIN'S EGG BLUE interior on this 45-cu. ft. reach-in is a new feature in the McCall Refrigerator Corp. line, notes H. S. Walker, (l.) McCall factory representative in San Antonio. H. B. Osterhout, McCall sales manager (r.), says that interiors can be finished in any color of porcelain desired. KEY NO. D-5439.



BY PRESSING A DUAL CONTROL foot pedal, models Dorothy Johnson and Georgette Schuler automatically and electronically control the size portion of ice cream they draw from these Sweden freezers. Size of portion can be pre-set by the restaurant operator. KEY NO. D-5435.

For more information on the products shown here please use Key Numbers and "Information Please" coupon appearing on the "What's New" page. More pictures from the Restaurant Show will appear in a later issue.



THE CLUB BAR instantaneously cools, mixes, and carbonates any four flavors and club soda, John H. Donnelly (r.), sales manager of Club Bar, Inc., points out to salesman I. H. Cohler (center), and company President Ted V. Seidel. The unit is manufactured for Club Bar by Tempite Products Corp. KEY NO. D-5437.

Model EF-40 (SCEWC)
40 gal. cap.
7 ft. long

Model EF-20 (SCEWC)
20 gal. cap.
5 ft. long

Model EF-30 (SCEWC)
30 gal. cap.
6 ft. long

Sell ALL the features

WITH THE NEW

Everfrost

FOUNTAINETTE SERIES

The Everfrost Fountainette Series offers a fully self-contained unit, including carbonator and compressor, in a range of sizes to fit every application. Only with an Everfrost Fountainette do you get a compact, packaged, ready-to-operate fountain that requires such a small amount of floor space... that is so easy to install... that is so economical to buy and operate. Why not write today for detailed information on the Fountainette Series, as well as the complete line of Everfrost Soda Fountain and Drink Dispensing equipment.

- ★ Fully self-contained
- ★ Three temperature controls
- ★ Patented Everfrost Carbonator and Water Cooler
- ★ Everfrost designed water pump
- ★ Stainless steel syrup pumps
- ★ Running water dipper well and refuse chute
- ★ All steel construction
- ★ Simplified plumbing
- ★ Stainless steel interiors
- ★ 100% cold wall construction

EVERFROST SALES, INC.
14815 S. Broadway • Gardena, California



RAYMOND LOEWY designed this new two-draw milk dispenser for Morris Dispensers, Inc., says Mrs. R. W. Sjostrand. She can draw either white or chocolate milk from this machine. KEY NO. D-5438.

Key to

WATER COOLER

ICE MAKER

SALES...

FILTRINE

"Taste-Master"

PURIFIER

Stop service calls... keep out rust and sludge... open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO.
BROOKLYN 38 • N. Y.
"Water Coolers and Filters for 40 Years"

A Great New Line of Frozen Food MERCHANDISING CABINETS

By **Schaefer**



MODEL FGF-224D
With low type superstructure, 22 cubic feet capacity. Displays 660 standard frozen food packages. Holds 10 cases in storage compartment. Also available with shelf type superstructure.

EIGHT MODELS
12 TO 22 CU. FT. CAPACITY



MODEL FGF-164D
With low type superstructure, 16 Cu. Ft. capacity. Displays 460 standard frozen food packages. Storage compartment holds 6 cases. Also available with plastic or shelf type superstructure.

- Double Duty
- Extra Storage Capacity
- Fashioned Exclusively for Frozen Food Merchandising
- Space Saving
- Portable—Self Contained
- Low Original Cost
- Low Operating Cost

DISTRIBUTORS — REPRESENTATIVES

● Our new policy of forming the Frozen Food Cabinet Division of Schaefer, Inc. enables us to expand our distributor and representative organization. If you are interested in a Schaefer Frozen Food Cabinet franchise, send the coupon or write today.

Frozen Food Cabinet Division
SCHAEFER, INC.
802 Washington Avenue, No., Minneapolis 1, Minnesota

Send details on the Schaefer Frozen Food Cabinet Line.

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FIRM _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

Equipment Arrangement—2

Proper Layout of Air Distribution System and Equipment
Vital for Successful Job, Air Force Engineers Told

Editor's Note: This is the sixth instalment in a series of articles presenting the papers given at the recent Refrigeration & Air Conditioning Engineers' Conference held by Headquarters, United States Air Force at the Pentagon in Washington, D. C.

The previous articles discussed "Load Calculations" and "Equipment Selection" for a typical synthetic flight trainer building.

Below is the second part of a two-part article devoted to "Equipment Arrangement." Next instalment will take up the subject of controls.

By C. J. Brillinger, Director of Training and Education, York Corp.

In selecting fans you have the choice of two major types—the axial flow (propeller type) and the centrifugal fan. The axial type fan, while it is increasing in popularity, is generally a bit too noisy for most of our air conditioning installations.

The centrifugal fan is available with three types of blades, the blade design determining performance characteristics. These are forward curved blades, backward curved blades, or radial curved blades.

The forward curved blade fan at a given speed imparts more

energy to the air and thus can be operated at a slower speed. It is most efficient at maximum static pressure output, and is quiet due to its lower speed.

Backward curved blade fans don't deliver as much air as forward curved blade fans and therefore have to run at higher speed to move the same amount of air. Thus, they are noisier due to the speed. They are most efficient at points near free delivery.

Radial blade fans fall between the other two types.

In any discussion of fans and fan selection you must take into

account the three basic fan laws. These are:

1. The quantity of air handled is proportional to the fan r.p.m.

2. Static pressure varies as the square of the speed.

3. Power required will vary with the third power of the speed.

Thus, it is obvious that we load up the motor very quickly when we speed up a fan.

You should also remember that static pressure of a duct system is proportional to the amount of air handled.

To select a fan properly we must know the required c.f.m. of the system, the static pressure, density of air (if other than standard), type of service, arrangement of system, sound level required, and the operating efficiency necessary.

It is well to realize also that if we try to minimize the static pressure on the system this will likewise help prevent noise.

In connection with fans and duct systems generally, it is advisable to provide an access door so the fan can be cleaned regularly to prevent accumulation of dirt. This dirt accumulation might cause the fan to become unbalanced.

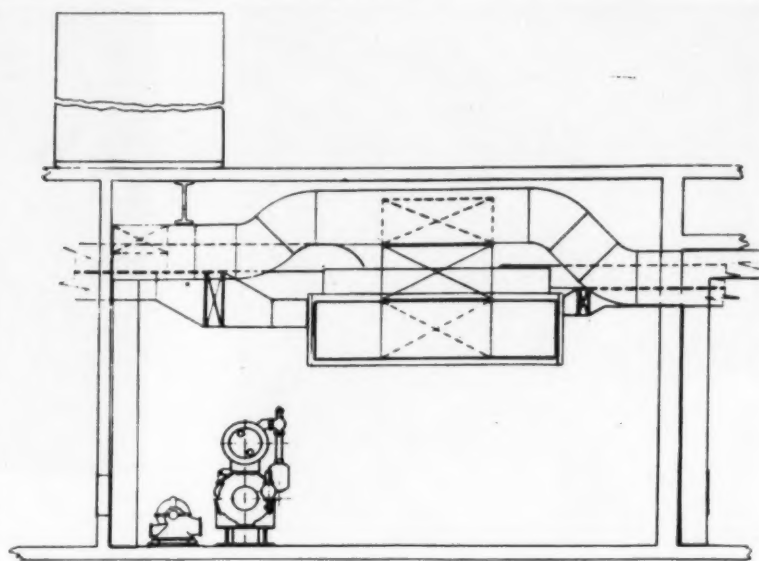


FIG. 4—Elevation of machinery room in synthetic flight trainer building shows condensing unit, pump for cooling tower, blower, coils, and ducts.

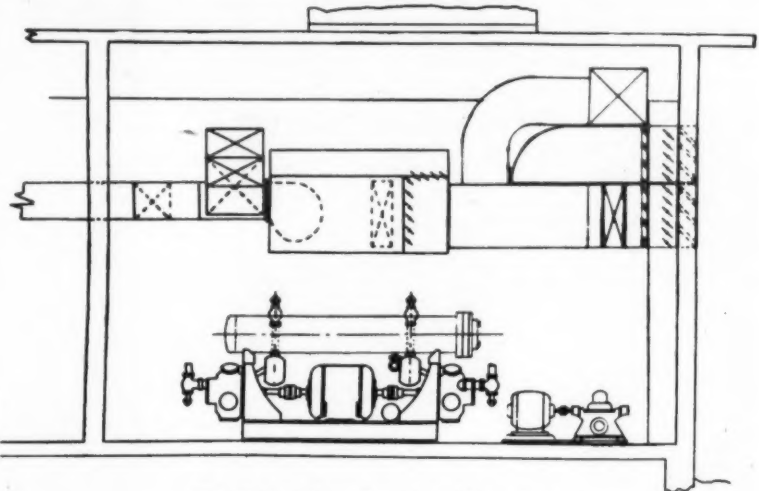


FIG. 5 is another view of machinery room.

Fans and motors should be mounted on resilient bases, and rigid members of the system, such as conduit, pipe, etc., should not be attached to the fan housing.

Now with respect to the duct system (Fig. 3) for the synthetic trainer building, we will supply 2,700 c.f.m. to room No. 2, the classroom, through a separate duct from the air-handling unit in

the machinery room. There are four ceiling outlets in the classroom.

In the main duct for room No. 2 at the machinery room is a 24 by 24-in. four-row coil through which condenser water is piped for reheat. This coil has a reheat capacity of 53,250 B.t.u. per hour.

Room No. 1, the synthetic

(Continued on next page)

This completely new Worthington packaged unit puts air conditioning years ahead!



NEW! SIMPLE, MODERN LINES that look good anywhere.

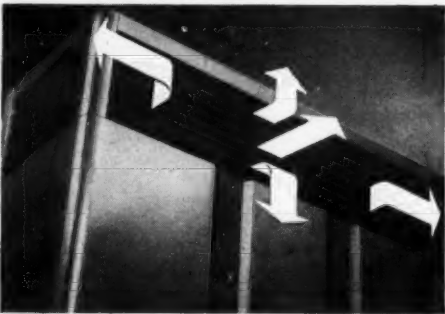
NEW! CARE-FREE PERFORMANCE. Customers will like the way a turn of the dial gives the amount and kind of cooling desired. And if temporary power or water failure interrupts service, a twist of a knob restarts unit — with no service call needed.

Easy to use, easy to sell!

Here's a brand-new, handsomely styled air conditioning "plant" that's as easy to operate and control as today's electrical refrigerator.

Every single component has been restudied, in many cases redesigned, and the complete unit tested repeatedly under conditions harsher than it could ever meet in actual service. The result? A quiet, smooth-running packaged unit that will make your Worthington franchise more profitable than ever before. There are sizes for every business, office, or store need. Worthington Corporation, Air Conditioning and Refrigeration Division, Harrison, N.J.

Look at these new sales-making features!



NEW! 3-DIMENSIONAL CIRCULATION. Louvers are easily adjusted to send cool, dehumidified air up, down, to either side or straight ahead. No drafts, no waste circulation.



A.4.47

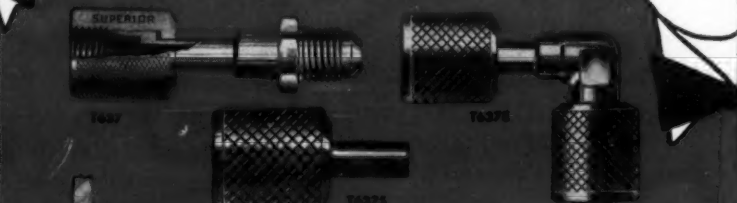
WORTHINGTON



CLIMATE ENGINEERS TO INDUSTRY, BUSINESS AND THE HOME

Like these
Quick-Couplers?

Man,
they're speedy



T550



T555

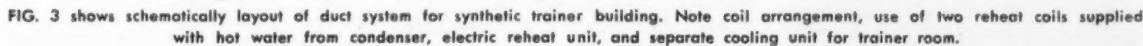
Speedy is right! And the proof of their worth is in the tight seal you get without using a wrench! The secret is the soft composition gasket that snugs up for a tight, positive seal. Years of use on charging, gauge, vacuum and pressure lines is proof of their efficiency. A simple twist of the quick-coupler with your fingers is your proof of speed.

Be choosy, ask your wholesaler
for Superior Quick-Couplers

Superior valve and fittings co.

Pittsburgh 26, Pa.





(Continued from preceding page)

There is a single side wall outlet in each of the offices and the work-room, and two outlets in each of

This outside air coil takes care of the major part (more than 70%) of the latent load on the system. It takes outside air at the design conditions of 95° d.b. and 78° w.b. (with 118 grains of moisture per lb.) and drops this to 60.1° F. d.b. and 60.6 grs. per lb.

(To Be Continued)



PITTSBURGH — Dravo Corp. Machinery Div. announces the opening of a southwest office at 1615 Blodgett Ave., Houston. The Houston office will handle

George R. Beidler, formerly of the Dravo New York office, has been named district sales manager.

TO THE WOOD IN COOLING TOWERS

Unretouched photographs

Unprotected cooling tower redwood
RESULT OF CHEMICAL ATTACK

Unprotected cooling tower redwood
RESULT OF FUNGUS ATTACK

This micrograph shows a fracture surface with a prominent, dark, irregularly shaped inclusion or void. The surrounding material has a fine, granular texture.

Examine these unretouched photographs carefully. Constantly wetted wood decking in a cooling tower is subject to immediate attack by fungus and marine parasites. It is also subject to chemical deterioration from acids in water. All wood used in Halstead & Mitchell Cooling Towers is protected against these twin enemies.

Creosote . . . with 162 elements toxic to fungus growth and parasites . . . also makes wood more resistant to chemical attack. Deep penetration of the wood by Koppers Pressure-Creosoting gives the longest possible wetted decking life. Therefore, all Halstead & Mitchell Cooling Tower decks are Pressure-Creosoted, and are guaranteed against rotting due to fungus growth . . . for 20 years!

ONLY HALSTEAD & MITCHELL OFFERS THE

ON THE WETTED DECK SURFACE against rotting by fungus attack

**Sheet-Steel Cabinets,
5-times protected**
Stainless Steel Fans and Shafts
Weather Shielding
**Everdur Bolts for ease of
disassembly at any time.**

At Leading Refrigeration & Heating Wholesalers Everywhere

OFFICES: Bessemer Bldg., Pittsburgh 22, Pa.

GENUINE JOE SAYS:

**BE SURE TO
GET **WAGNER'S**
NEW ELECTRICAL
SERVICE CATALOG
MU-40**

**Send for
your free
copy
today!**

WAGNER ELECTRIC CORPORATION
6471 PLYMOUTH AVE., ST. LOUIS 14, MO.

LAU

**For the best in balance
and trueness...choose**

**CONSTANT SPEED
Lausteel
Pulleys**



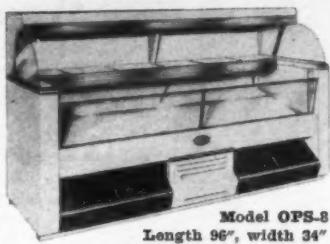
Lausteel constant speed pulleys are suitable for use with both "A" and "O" section belts. Available in diameters of 6" to 10" inclusive. These pulleys give better performance with less friction . . . for longer belt life.

Write for Catalog Page 707-14

THE LAU BLOWER COMPANY
DAYTON 7, OHIO

World's Largest Manufacturers of Air Conditioning Blowers

**You can spend more
... But you can't buy
better than NATIONAL**



Model OPS-2
Length 96", width 34"
height 54", 1/2 H.P. sealed

The NATIONAL produce merchandiser, for fruits and vegetables, is a compact, self-contained cabinet. Ready to plug in. Made with heavy gauge steel, hi-gloss, white baked enamel finish.

Has automatic defrosting, 4" low temperature approved, vapor sealed insulation. Fluorescent lighting. Condensing unit is Hermetically sealed, 110 volt service. Refrigerant: Freon 22.

Compare National's exclusive features . . . compare the price! Discover why "Dollar for dollar, you can't buy better than NATIONAL!"

DEALERS!

WRITE TODAY—

For information and literature.

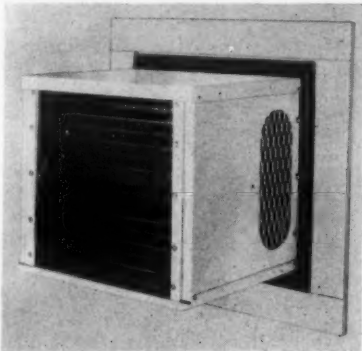
**NATIONAL MARKET
EQUIPMENT COMPANY**

410 E. Fifth St. • Royal Oak, Mich.

What's New

When requesting further information on new products, please use "Information Center" form.

Taylor-Burch Introduces 3 Outboard Cooler Units

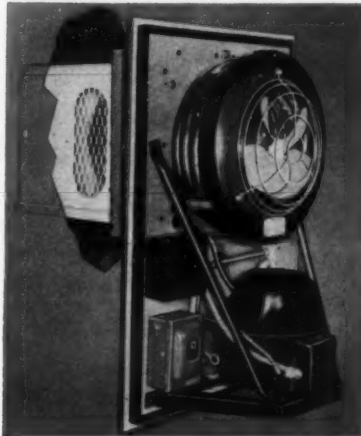


KEY NO. D-541

JACKSON, Mich.—Three heavy-duty outboard type refrigeration units for walk-in coolers are announced by Taylor-Burch Refrigeration Products here.

According to the manufacturer, the 1-ton (or 1-hp.) model 100 will handle a 12-ft. by 12-ft. by 7 1/2-ft. cooler under normal conditions and maintain a 35° F. temperature. Temperature settings can be changed if desired.

The model 50, a 1/2-ton unit, is designed for a 6-ft. by 8-ft. by 7 1/2-ft. box, the model 75 is a 3/4-



ton unit for a cooler measuring 8 ft. by 10 ft. by 7 1/2 ft. or equivalent. For larger coolers, multiple units may be used.

Installation is simple, the company stated.

"For the 1-ton unit," it said, "a hole 20 1/4 in. square is cut in the side wall of the box. The unit is then set through the hole and fastened with four screws. All that remains is to hook up the neces-

sary power and throw the switch."

All three models are air cooled, but the model 100 is furnished with a water condenser if it is desired.

Ray Taylor, general manager of the company, pointed out that gas and oil charges are hermetically sealed, the electrical system completely armored, and fan motors lubricated for life.

Two other advantages are said to be a low price and the saving of space.

"Mounted in a side wall, the 1-ton unit projects only 16 in. into the cooler," the company said. "There is no loss of floor space nor is a separate equipment room required."

All models are available with either model A-T Tecumseh or model A-S Servel compressors. The 1/2-ton unit operates on 115-volt current, the 3/4-ton on 115/220 volts, while the 1-ton is equipped for 220 volts only.



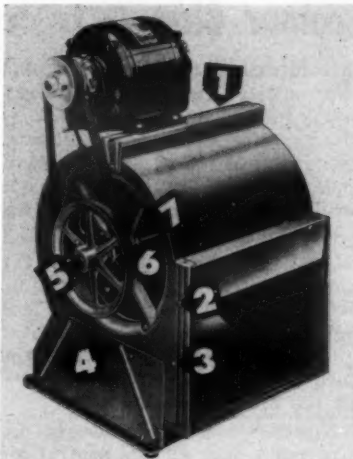
3-Ton Residential Cooler Added to Marvair Line

KEY NO. D-543

MUNCIE, Ind.—A 3-ton air-cooled residential air conditioner for homes of 1,400 to 2,100 sq. ft. of space has been added to the "Marvair" line of air conditioners, Marvin Smith, vice president of the Marvair Div. of Muncie Gear Works, Inc. here, announced.

The new 3-ton air-cooled Marvair has two cooling and dehumidifying systems. Under most conditions just one of these is required to cool and dehumidify the air, the other system remaining idle until an extremely hot day comes along. Meanwhile the homeowner enjoys a comfortable atmosphere with a minimum of operating expense, Smith said.

Basic principle of all air-cooled Marvairs is a dropped ceiling or plenum in the central hall into which conditioned air is expelled from the unit installed in the attic.



Viking Blower Assembly Easier To Install, Quieter

KEY NO. D-542

CLEVELAND—The 1954 "Dura-maroon" and Silver blower assembly for furnaces, air conditioning units, and Viking blower packages, has been announced by the Viking Air Conditioning Div. of the National Radiator Co.

This new blower assembly features improvements for easier installation and service as well as quiet trouble-free performance, the company said.

Use of a new research instrument, the electronic "Vibratron," which can detect and analyze the most minute source of vibration noise, led the way to the positive counter-vibration improvements in the 1954 model of the Viking blower assembly.

The new blower outlet is double-ribbed on three sides to eliminate pulsation of these flat metal areas and to give a tighter fit with the felt seal.

Both ends of the triangular cut-off are attached to the outlet sides to increase rigidity and maintain squareness.

Each Viking blower wheel is now automatically balanced-in-motion on a new balancing machine to assure quiet performance.

The factory-mounted motor bracket saves motor installation time. Bolts are inserted in the motor first, then it slides into position where it can be tightened down with one hand. Built of a box and channel shape of 16-gauge steel welded into a single piece, the bracket supports the motor even in shipment, keeping pulley and belt in alignment.

V-ribs and gussets stamped in the blower feet add further strength-without-weight. By making the feet more rigid with a minimum of metal shaping, Viking has pinpointed the accuracy of the mounting holes so that no lining-up time is required to set the blower into its parent unit and bolt it down.

The new blower assembly also retains Viking's exclusive spring-and-cushion shaft mount, the flush-mounted bearing brackets, and Viking's exclusive 360° adjustable "Univoil" bearings.



Soldering Tool Has Tip Voltage of 3 1/2-12 1/2 Volts

KEY NO. D-544

TUSCALOOSA, Ala.—A new soldering tool for use wherever light, instantaneous soldering is called for has been introduced by the Stark Mfg. Co. here.

Operated on a regular 110-volt a.c. line through a step-down transformer, "Solder-Quik" has an operating voltage at the tip of only 3 1/2 to 12 1/2 volts. The completely enclosed transformer is protected with a replaceable 4-amp fuse.

No heat is generated except when in contact with the work, the company says. Twin carbon electrodes establish instant soldering contact and the work heats instantly to soldering temperature. Solder flows on smoothly and evenly.

Over-all length is 8 3/4 in. Electrodes are 2 in. long and 3/8 in. in diameter. Only 1/2 in. clearance is needed for the tip.

Solder-Quik carries a list price of \$19.95, f.o.b. Tuscaloosa.

**IDEAL
Speed-Freeze
PRODUCTS**

**BEVERAGE COOLERS AND
INSTANTANEOUS DRAFT
BEER COOLERS.
(With Refrigerated Faucets)**

WRITE

IDEAL COOLER CORPORATION
2933 EASTON AVE. • ST. LOUIS 8, MO.



See this fine line at your nearest Lehigh BLU-COLD jobber or write for your copy.

**Lehigh BLU-COLD
CONDENSING UNITS AND SYSTEMS**

LEHIGH MANUFACTURING COMPANY
Lancaster, Pa.
DIVISION OF LEHIGH FOUNDRIES, INC.

Lehigh BLU-COLD OPEN TYPE UNITS • UNITS AND SYSTEMS FOR REFRIGERATED TRANSPORTATION • AUTOMATIC DEFROST SYSTEMS • BARE COMPRESSORS • A complete line for commercial and industrial use.

YOUR COPY IS READY—

listing capacities and specifications of "America's Most Modern Hermetic Condensing Units."

1/5 H.P. thru 5 H.P.

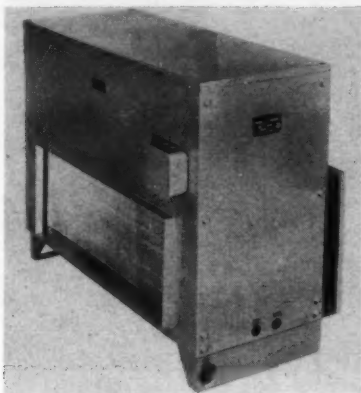
For service replacement and new equipment. Backed by the Lehigh 5-Year Warranty.



EXPORT DEPT.
13 E. 40TH ST., N.Y.

What's New (Con't)

1½-Hp. 'Cool-Pack' Gives 3 to 4 Tons of Cooling



—KEY NO. D-547—

OMAHA, Neb.—Hastings Air Control, Inc., has announced a new low-cost Hastings "Cool-Pack" air conditioner which is claimed to

deliver three to four tons cooling capacity with only a 1½-hp. compressor.

This unit will save over 25% in first cost and up to 40% on operating cost, the company says.

The "Cool-Pack" is a package unit with a combination water coil and "Freon" coil which can use water up to 70° temperature. An auxiliary "Booster blower" is available for installations where the furnace blower does not deliver adequate air.

The unit is designed primarily for domestic installations. With the addition of a blower attachment it is also for business and commercial use. Working on a single phase current, the 1½-hp. compressor eliminates power and wiring problems, the company says.

Perfection Range Has Multi-Purpose Griddle



—KEY NO. D-548—

CLEVELAND—A 36-in. range with a multi-purpose griddle located between the two pairs of surface units on the white divided top has been introduced by the Perfection Stove Co. here.

The griddle on the model L-

307-A is controlled by a smooth, variable switch on the white porcelain front panel.

The four surface units have seven heat speeds each for all possible cooking needs. Capacities of the units range from 1,250 to 2,100 watts, and the flat coils of the units are self-cleaning and hinged for easy access to heat reflectors and drip trays.

The large family-size oven is lined in black porcelain enamel. The aluminum smokeless broiler pan has a reversible rack which serves as a trivet when roasting.

Available as an accessory is a streamlined lamp and timer—a double incandescent lamp with a one-hour minute minder.

All white areas of the L-307-A have acid-resistant titanium porcelain enamel finish. For contrast, the nameplate on the white porcelain enamel front panel is in gold.



Resin and Alcohol Flux Is Non-Corrosive

—KEY NO. D-549—

PHILADELPHIA—A non-corrosive resin and alcohol flux for use on copper, brass, terne plate, tin plate, etc., has been developed by the Farrelloy Co. here.

The company's No. 8 flux is a non-ionizable flux even under conditions of high humidity, which eliminates both electrical leakage and corrosion, Farrelloy said.

It explained: "Basically, No. 8 non-corrosive is a resin and alcohol flux fortified to suspend surface oxide on the common metals more rapidly and thoroughly without charring or building excess residue and still leaves a neutral resin residue."

Actual tests have shown No. 8 is fast enough to solder on clean steel without pretinning, the company claims. This type of action automatically cuts down rejects on copper soldering, it said.

The new flux has been thoroughly field tested and is now being used by a number of electrical manufacturers, according to Farrelloy. It is priced at \$4.75 per gal.

It can be used as a window ventilator, floor fan, shelf or table air circulator.



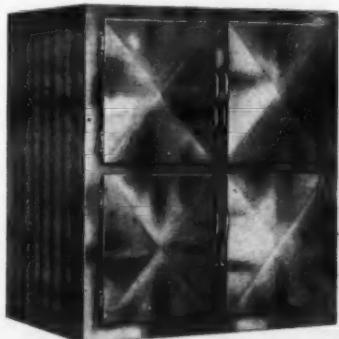
Jet Stream Fan Has Deep Pitch Blades

—KEY NO. D-5410—

MENOMINEE, Mich.—A new jet stream fan with deep pitch blades and jet design cowling has been introduced by the Signal Electric Mfg. Co. here.

The company claims that the fan, made in 2,500 c.f.m. and 3,500 c.f.m. ratings, will move more air in less time than any fan its size and more than many fans much larger. The manufacturer says it will penetrate several rooms at once for over-all circulation.

"A Case of Cool Judgment"



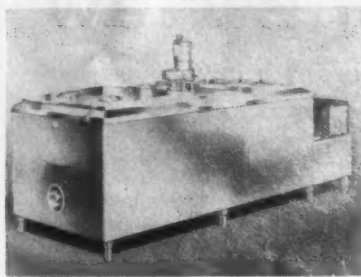
Stainless Steel DRINKMASTER MIX MODEL

#4D60 Holds 60 Gals. Mixt.
#4D80 Holds 80 Gals. Mixt.

Upper Part for Food Storage.

United Friguator Engrs.
Menominee, Mich.

Dairy Equipment Adds 4 Sizes of Bulk Milk Coolers



—KEY NO. D-5411—

MADISON, Wis.—Four new sizes of "Dari-Kool" bulk milk coolers have been added to the present line by Dairy Equipment Co. here.

In addition to its 100, 150, 200, and 300-gal. sizes, the company is now manufacturing coolers with 400, 500, 600, and 700-gal. capacities.

In the Dari-Kool, a self-contained cooler, an ice-cold waterfall flows freely down all sides and over the bottom of the milk tank to cool the milk. A large ice bank, maintained at all times, assures a continuous supply of ice water, according to the company.

"The weight of milk in the tank is accurately measured by a stainless steel calibrating stick," the company said. "After the Dari-Kool is installed, the tank is leveled and calibrated in the milk-house. A calibration sheet is made for the producer and the processor."

"The milk is removed from the

top of the cooler through a stainless steel extractor pipe, thus leaving any heavy sediment in the bottom of the tank. The extractor pipe eliminates the necessity of using a valve.

"A bottom drain permits easy cleaning of the tank. Milk may be removed from the bottom of the tank if desired.

"Polished 3-in. radius corners make cleaning of the tanks with hot water a simple operation. All Dari-Kool models are built of stainless steel—including exterior cabinet walls.

"For warm southern climates, Dari-Kool can be equipped with a water cooling coil which converts the compressor into a combination air and water cooling compressor.

"Bacteria counts are reduced to a minimum with a Dari-Kool 'shock-cooler.' Milk enters a stainless steel trough where it is dispersed in fine streams against the cold tank wall, pre-cooling the milk to 50° before it reaches the milk in the tank."

Casement, Room Coolers Described by Airtemp

DAYTON—Two new pieces of consumer literature describing its casement and room air conditioners have been released by the Chrysler Airtemp Div. of Chrysler Corp. here. The folders are in full color and give details on customer benefits from Airtemp units.

EXPAND YOUR SALES WITH ...

Explosion Proof!

TEMPRITE

WATER COOLERS

FOR...

Grain Processing Plants

Textile Mills

Wood Working Plants

Hospital-Surgical Rooms

FOR...

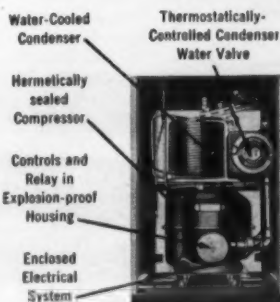
Chemical Plants

Refineries

Paint Plants

Collieries

The Cooler with the DEEP Stainless Top!



Temprite explosion-proof water coolers are essential in a long list of potentially combustible factory atmospheres. Invariably these dangerous atmospheres also contribute to thirst with coal dust, grain dust or wood dust floating in suspension. Underwriters' approved for Class I, groups C and D; Class II, groups F and G; and Class III of the NEMA Code. Write now for details.

Temprite Products Corporation
P. O. Box 72-A, East Maple Rd., Birmingham, Michigan

Send me distributor franchise information, I am interested in handling Temprite Water Coolers.

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For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

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Key No.	Key No.
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What Was New

At the Restaurant Show



STAINLESS STEEL packaged air conditioner for the restaurateur who demands stainless steel equipment in his place of business was exhibited by Koch Refrigerators, Inc. Koch President Chet Litman (r.) explains its features to Leon Rocamora of Asheville (N.C.) Showcase & Fixture Co. Koch makes stainless steel units in 5 and 7½-hp. sizes. KEY NO. D-5412.



HOTPOINT'S NEW QUINTETTE complete commercial cooking center in 30-in. width is enthusiastically appraised by model Sheila Jackson. It includes oven, broiler, surface cooker, fry kettle, and griddle. KEY NO. D-5413.



TOP MOUNTED COMPRESSOR on a 30-in. wide Herrick reach-in refrigerator for use in narrow spaces is feature of the 20-cu. ft. stainless steel box shown to Miss Dorothy Quinlan of Memorial hospital in Casper, Wyo. by J. C. Battles, midwest representative for the Herrick Refrigerator Co. KEY NO. D-5416.



ONLY WALK-IN FREEZER exhibited at the Restaurant Exposition was the pre-fabricated Fogel unit with demonstration condensing unit mounted on the side. William Fogel, president of Fogel Refrigerator Co. (I.) and Noble H. King, Chicago representative for Fogel, look it over. Automatic defrost is a feature. KEY NO. D-5417.



FOCAL POINT METHOD of open kitchen operation is taught to restaurant show visitors by model Nancy Jason, acting for Leitner Equipment Co. Leitner showed several newly-designed pieces of equipment to cut down movement and save time for the open kitchen chef, including an "all-in-one" refrigerated sandwich bar. KEY NO. D-5418.



LEARN SELF-CONTAINED REFRIGERATED DISPLAY available with either storage or freezer compartment is shown to Hyman Friedman of the Miami (Fla.) Restaurant Equipment Co. (I.) by F. C. Krasner, Lern, Inc. sales manager. KEY NO. D-5419.

Now! LIQUID CHILLERS

with INNER-FIN

Most Compact Shell and Tube Chiller Made

Heat-X Inner-Fin Chillers fill the need for a compact, highly efficient direct-expansion evaporator for use in chilled water air conditioning systems and on other liquid cooling applications.

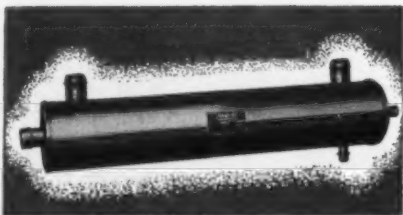


Patented Inner-Fin construction makes the Heat-X Chiller the most compact shell-and-tube chiller on the market. Copper inner-fins in the refrigerant passages greatly increase the heat transfer efficiency . . . permit smaller size and lower cost.

Water passages of Heat-X Chillers are of non-ferrous construction to eliminate any possibility of corrosion. Since they are single pass, there is no oil trapping problem.

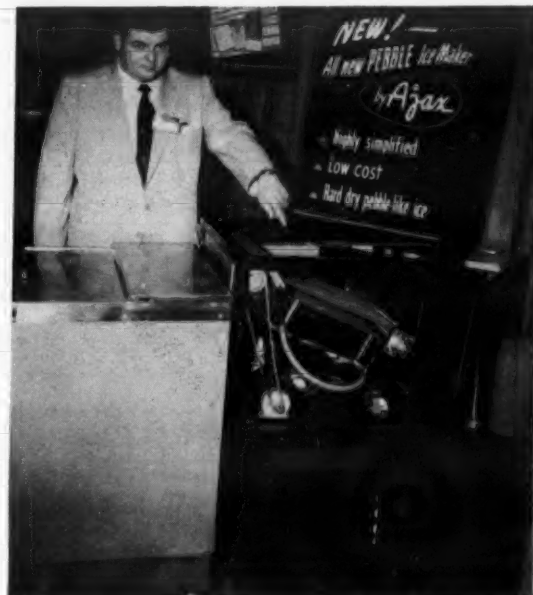
Capacities of Heat-X Inner-Fin Chillers cover the range from 3 to 35 tons. Selection of water baffle spacings is available to meet a broad range of water pressure drop requirements. Two inch thick rock cork insulation with sheet metal cover is available on all models.

Request free descriptive bulletins No. 1037 and No. 1038.



heat-x

THE HEAT-X-CHANGER CO., Inc.
BREWSTER - NEW YORK



STAINLESS STEEL SPRINGS acting as a conveyor to pull newly formed ice uphill to breaker wheels that break up the ice to desired thickness are pointed out by Paul A. Breittling, sales and service engineer for Ajax Corp. of America. The pebble icemaker is the model APM2A. KEY NO. D-5414.



A 5-TAP WATER TAP STAND with patented instantaneous cooler which will hook up to any refrigeration system is demonstrated by Michael Weiss, application engineer for Ideal Cooler Corp., (I.) to Nicholas A. DePalo of Bell Refrigeration, Baltimore. Ease of installation is outstanding feature of the new unit. KEY NO. D-5415.

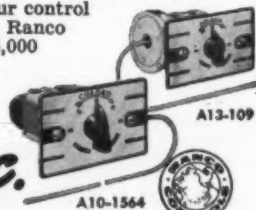
how to make hot sales prospects out of cold customers...



You'll melt sales resistance in a hurry with Ranco's new window air conditioner controls . . . just the ticket for modernizing old-fashioned window air conditioners not equipped with controls.

Offices and homes both offer you tremendous sales possibilities. These new controls prevent over-cooling . . . hold down humidity . . . maintain a "just right" indoor climate day and night. Get your share of this extra modernization business with Ranco's new A13-109 (3" differential), or A10-1564 (5" differential) control. Remember—whatever your control problem—it pays to see your Ranco wholesaler first. He has over 4,000 replacements—far more than available from any other source!

Ranco Inc.
COLUMBUS 1, OHIO



WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

Restaurant & Bar Equipment



—KEY NO. D-5420—

EASY TO DISASSEMBLE FOR CLEANING is the model B-200 Crystal Tips ice maker made by American Automatic Ice Machine Co. Demonstrated by model Donna Kime, the machine is designed for under-counter installation and gives either tips or chips ice service.



—KEY NO. D-5424—

AN ELECTRONIC WIZARD is this "Coffeteria" automatic coffee vending machine made for Product Merchandisers by United Refrigerator Co. United President L. U. Shapiro serves himself a cup of ground coffee brewed under pressure. He can have it black, with sugar, with cream, or with cream and sugar. The cream and liquid sugar are under constant refrigeration. Coffee is in constant circulation to keep it clear.

—KEY NO. D-5425—

A DUAL TEMPERATURE BOX with 9-cu. ft. freezer space and 11 cu. ft. of normal temperature space and powered by two condensing units was shown for the first time by Puffer-Hubbard Mfg. Co. Posing with the porcelain exterior unit are Carl R. Formento (l.), salesman for R. Cooper Jr. Inc. of Chicago, and R. L. Johnson, Puffer-Hubbard engineer.



—KEY NO. D-5426—

UNDER-COUNTER REFRIGERATOR completely wired for electric cooking units on top is introduced by Foster Refrigerator Corp. It is also available in remote, pass-through, and freezer models. Philip Young (pointing), Foster's New York district sales manager, tells M. D. Edelman and V. Joseph Sulli of Lifschultz Fast Freight.



—KEY NO. D-5421—

NEW MERCHANDISING SIGN atop Carbonic Dispenser Inc.'s "Soda-master" is a delightful subject of conversation for Ernie Allison (r.), Carbonic Dispenser sales manager, and Frank Stella of Stella Products Co., Detroit.



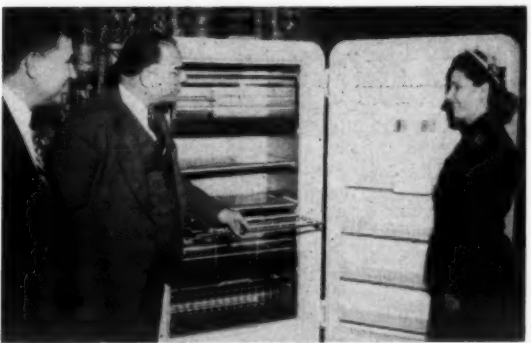
—KEY NO. D-5422—

BACK BAR ROTISSERIE with two spits revolving in opposite directions was shown for the first time at the Restaurant Show by Star Metal Mfg. Co. Abe S. Levin (l.), Star Metal president, explains its operation to Emil Windmiller of Emil's Coffee Shop in Columbus, Ohio.



—KEY NO. D-5423—

FRIGIDAIRE'S COLORFUL VFT-125 food freezer will soon be available for commercial use. Frigidaire's Jack Smith (center), tells George and Eugenia Stathkis of Pete's Barbecue in Lyons, Ill.



YORK CORPORATION USES REVERE COPPER WATER TUBE



... IN AIR CONDITIONING
14 FLOORS OF
NETHERLAND PLAZA HOTEL
CINCINNATI, OHIO

Engineers of the York Corporation told us that they used Revere Copper Water Tube on this job for a number of reasons. Installation of the risers was simplified because no threaded connections were necessary, there were fewer fittings and what few fittings were necessary, were readily soldered. They knew from years of past experience with non-rusting copper that they could count on this "ageless" metal to endure through the years. Also, York Engineers consider copper a natural for air conditioning installations.

In fact, you could almost say, "Where there's air conditioning there's copper." Check the many advantages of copper water tube at right and you'll readily see why.

Keep out of trouble, protect your reputation for quality work, with copper. Use Revere Copper for air conditioning lines, radiant panel heating, hot and cold water lines, underground service lines, waste stack and vent lines, processing lines. See the Revere Distributor nearest you today. And, if you have a technical problem, he will put you in touch with Revere's Technical Advisory Service.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere
SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

WHY REVERE COPPER WATER TUBE IS PREFERRED FOR AIR CONDITIONING



EASY TO BEND Saves Time

Revere Copper Water Tube is easy to bend. Soft temper can be bent by hand to meet installation conditions.

HANDY LENGTHS
Save Fittings... Labor
Revere Copper Water Tube comes in straight lengths of 20' in hard and soft temper. 60' coils of soft temper reduce the number of fittings needed.



SOLDER OR COMPRESSION FITTINGS Need Less Work Room

... Save Metal
No worry about wrench room when you use Revere Copper Water Tube with solder fittings. Compression fittings can also be used. No threading is necessary with either type fitting. Wall thickness of tube used can thus be less than for threaded pipe.

NON-RUSTING

Rustable pipe eventually clogs as shown in drawing at top right. Non-rustable Revere Copper Water Tube suffers no loss of flow or pressure as shown at bottom right. No allowance in pipe size need be made for rust accumulation with Revere Copper Water Tube.



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Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Spring Inspection (3)

Modern electric motors are remarkably trouble-free pieces of machinery. They run month after month and year after year, and we tend to forget them and their need for any care whatever. It pays, however, to give them some attention along with other parts of the equipment.

The amount of maintenance required for a motor, and the frequency with which it should be inspected, depends upon the type of motor, the use to which it is put, and whether the motor location is clean or dirty, dry or damp.

POLYPHASE MOTOR MAINTENANCE

The two-phase or three-phase squirrel-cage motor is exceedingly simple. It has no commutator, no brushes, or any other auxiliary parts. It consists only of the stator

with its three sets of coils, the rotor consisting of a number of copper bars in slots in the rotor laminations, and the end bells holding the bearings. Thus, there are few things to go wrong with a squirrel-cage motor.

Other than bearings, about all that can happen to a squirrel-cage motor is for the insulation on the stator winding to break down causing a short circuit or a ground; or, especially in some of the older types, one or more of the copper bars in the rotor can become loosened from the copper or aluminum end rings of the rotor. This is not a very common occurrence.

Therefore, maintenance for the squirrel-cage motor is confined mostly to the stator windings and to the bearings. The rotor has a few blades on it for the purpose of circulating the air and cooling the motor. In this way some dust and lint are drawn in and deposited on the windings. These tend to absorb moisture and oil, both of which cause the windings to deteriorate.

At least once a year the windings should be blown out with dry air. If the motor is located in a very dusty place, such as above or near a coal bin, it may be advisable to blow it out more than once a year.

Blowing out will not be enough for windings that have become oil soaked. The motor should be disassembled, the windings washed out thoroughly with a good solvent, such as Stoddard solvent, re-varnished, and baked.

Motors that operate in damp or wet locations must be given extra attention. This is particularly true of motors that are located in unheated cellars or outside the building.

Pump and fan motors on water cooling towers and evaporative condensers located outside, operate under very trying conditions. They are subject to dampness and rain, and especially on air conditioning systems, they may not operate for months at a time and, therefore, do not even warm up, which helps to some extent to keep them dry.

For motors in such wet locations, it is good policy to remove the motors every spring, blow them out well, bake them, and perhaps revarnish the accessible ends of the stator coils. A good deal of trouble from motors on evaporative condensers and cooling towers, and those motors in similar outdoor locations, may be avoided by this spring maintenance.

SINGLE PHASE MOTOR INSPECTION

Single phase motors must have some sort of starting device, thus adding commutators, brushes, brush holders, centrifugal devices, starting relays, and capacitors, all of which multiply the causes of trouble on single phase motors.

The spring inspection should include single phase motors. They too should at least be blown out, and if there is oil down in the windings or oily gum around some of the operating parts, such as the brush holders, centrifugal device, etc., the motor should be disassembled and thoroughly cleaned.

Some repulsion-induction motors have copper short circuiting segments, often called necklaces, inside the rotor. In overhauling this type of motor, these should be removed, inspected and cleaned, and the barrel in which they fit should be cleaned and sanded. The necklaces may have to be replaced, but this is not often necessary.

Brush holders should be cleaned, brush springs tested for proper tension and brushes checked. They must fit the commutator accurately, and if they do not do so, they should be reground by rocking them back and forth on a strip of fine sandpaper, sand side up, on the commutator. If the brushes are badly worn, they should be replaced but the new brushes must be ground to fit the commutator.

A great deal could be written about commutator maintenance. For our present purpose, it is enough to say that the commutator must be smooth and even. The mica between segments must never extend above the segments. On most commutators, the mica should be undercut. If there is sparking at the brushes, there is something wrong with the commutator, brushes, springs, or brush holders. Never use emery cloth on a commutator.

On capacitor start motors that are exposed to damp operating conditions, it is well to check the capacitor with a watt-meter, particularly if the motor has been sluggish in starting. If the capacitor becomes a little damp, it will become weak, that is, it will not have its full m.f.d. rating, and consequently the motor starting characteristics will be affected.

MOTOR BEARINGS

Motor bearings should, of course, be inspected. Worn bearings are indicated by a growling noise when the motor starts. Worn bearings should be replaced, even though the motor is not actually giving trouble. Worn bearings allow the rotor to become closer to the lower pole pieces of the stator and farther from the upper ones. This affects the torque characteristics of the motor. Moreover, continued bearing wear may allow the rotor to actually drag on the stator, a frequent cause of motor burnout.

Replacing bearings in motors varies a great deal according to the design of the motor. On many motors, the journal or hole in the end bell, is not very accurately machined. The bearing is pressed in and then the accurate machining is done on the bearing, so that it is not only smooth, but also in line with the other bearing.

Moreover, the bearings must be reamed or otherwise machined so that the rotor is exactly concentric with the stator. To line-ream motor bearings is extremely difficult merely with a hand-expansion reamer and without a lining bar or other special tools. Without such special tools, bearings are best

reamed by chucking the end bell in a lathe and finishing the bearing with a fly-cutting tool or shell reamer.

On some motors, the hole in the end bell is accurately machined. Then a bearing furnished by the motor manufacturer and which is also accurately machined and finished can be pressed or driven in with a special tool. With this method of construction, bearings can be replaced satisfactorily with small hand tools.

Larger size motors use oil rings that, rotating on the shaft, carry oil to the shaft from the reservoir below. Obviously, there must be a sufficient amount of oil in the reservoir so that the ring is properly immersed, not just enough for the bottom of the ring to be in the oil, but to its normal level.

Check the oil rings to see that they are free. In some designs the oil ring may climb off the shaft on to the bearing journal, if it is not kept in place by a clip.

See that the oil is clean; it may be contaminated by dirt or other foreign matter. Some maintenance men make a practice of occasionally draining the oil from the oil well and replacing it with clean, new oil.

Examine the ball bearings of ball bearing motors for a possible cracked bearing. Also examine the grease. If it appears to need re-packing, use only the grease recommended by the motor manufacturer. This is important.

FRACTIONAL SIZES OF MOTORS

Fractional motors usually have the bearings waste packed or equipped with wicks to bring the oil up to the shaft from the oil reservoir below. Waste packing does not require much care except to make certain that the waste is snugly packed around the shaft and reaches down to the bottom of the oil reservoir. On wick-type oilers, see that the wick is soft, that it is free in its hole and that the spring holds it up against the shaft.

If the wick appears to be hard and not capable of absorbing oil properly, replace it. In emergencies, when a new wick is not available, soak the wick thoroughly in gasoline or naphtha until it is again soft.

And now the oil itself. Use the oil recommended by the motor manufacturer, but if you do not know this, the best oil to use on most motors is Number 10 automobile crankcase oil.

However, during the past few years, the oil refiners have been putting various anti-corrosion, anti-sludge, anti-carbon compounds and dispersants in their oils. These are useful in automobile engines but not necessarily in motor bearings.

In fact, there is considerable evidence that some of these oils may cause the wicks of wick-oiled motors to harden in a short time, resulting in the bearing not getting sufficient oil; consequently the bearings will wear excessively.

Some oil producers are now putting out an Electric Motor Oil which is about a No. 10 oil and free of the additives used in crankcase oil. However, do not confuse this with the small cans of very light oil for household use—sewing machines, vacuum cleaners, etc. Do not use this very thin oil on motors, and warn your customers against its use.

(To Be Continued)

ARE YOU SURE YOU'VE NEVER HAD TROUBLE WITH OIL?

A recent survey of refrigeration failures and their causes showed that oil was blamed in less than 0.1% of the cases. Moisture, expansion valves and strainers were thought to be culprits almost 20% of the time. On the surface, this looks good for refrigeration oils. But before you cross oil off your list of possible causes of trouble, let's take another look.

If moisture causes a failure, it has to get into the system somehow. Sloppy handling of oil or improper purging can cause moisture problems. But so can inferior refrigeration oils that haven't been properly processed.

Strainers, expansion valves, and capillaries shouldn't really be listed as the cause of failure if they're clogged. The real culprit is the stuff that is passing through them. Here again, inferior refrigeration oils that form sludge or contain too much wax are often to blame.

The best way to avoid a lot of call-backs is to use Suniso... the refrigeration oil that is used and recommended by most refrigeration manufacturers. Controlled from crude to can by oilmen, Suniso always assures you of both uniformity and high quality... it eliminates all your oil problems.

**Sold Everywhere by
Leading Refrigeration Wholesalers**

SUNISO ADVANTAGES • provides adequate lubrication at all temperatures encountered in service • possesses a high degree of stability • won't throw out wax deposits under low temperatures • has extremely low moisture content • resists formation of corrosive acids and carbon under service conditions • separates readily from refrigerant—won't react adversely

SUNISO
REFRIGERATION OIL
A PRODUCT OF SUN OIL COMPANY

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Instruments**

THE SERVICEMAN LINE of Testing
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PRESSURE GAUGES and Dial Ther-
mometers for all services.
MARSH-ELECTRIMATIC, Water Regu-
lating Valves, Solenoid Valves.
MARSH INSTRUMENT COMPANY
Sales Affiliate of J. P. Marsh Corporation
Dept. D., Skokie, Ill.



BEIGE SEMI-GLOSS finish makes this Worthington year-round residential unit suitable for installation in recreation room or finished basement.

Worthington Year-Round Home System--

(Concluded from Page 1, Col. 5) one point of control, from a handsomely-styled, centrally-located thermostat, the company said.

Incorporating the latest developments in year-round air conditioning engineering and design, the new unit requires only 8.5 sq. ft. of floor space, Worthington emphasized. It will pass through any standard 30-in. doorway.

The unit is being offered in both 2 and 3-ton sizes with either oil or gas-fired furnaces. The heating output for the oil-fired unit is 83,000 B.t.u. per hour and for the gas-fired unit is 80,000 B.t.u. per hour.

Both oil and gas-fired units are equipped with a heat exchanger that is ceramically coated to prevent corrosion.

The new Worthington unit can

be installed in any new home whether ranch type, split level, two-story, modern, or traditional, the company pointed out.

"It can be installed in a utility closet for homes without basements, it can be installed in a garage, or it can be installed in the basement," Worthington said.

"The attractive beige semi-gloss enamel finish will permit it to be installed in a finished recreation room or basement without detracting from the decor of the room. The unit can also be installed in an older house equipped with a warm air heating system."

The cooling system is powered by a Worthington hermetically-sealed compressor. The entire cabinet is thermally and acoustically insulated with aluminum-faced glass fiber.

Reed Asks Readers To Revise May 17th Column With Corrected Paragraphs Presented Below

(As Paul Reed explains, the following is a correction of some of the material that appeared under the "Refrigeration Problems and Their Solution" heading in the May 17 issue.)

This column, now in its eleventh year, has been fortunate in not having made many outright misstatements. Extreme accuracy has sometimes been intentionally sacrificed in favor of simplicity and clarity, but the facts have been basically true.

Occasionally, we make an error and when we do, it is often a "dilly." Such an instance occurred in the May 17, 1954 issue. How it happened is of little consequence, but we discovered it after the issue was printed but before it reached the hands of readers. We are truly sorry, and hope that our readers will make suitable correction on their copies.

Please substitute the following paragraphs instead of the third, fourth, fifth, and sixth paragraphs under that sub-head, starting with "In the refrigerant tables" etc., and ending with "if it is greater than about 6°."

"Attach an accurate thermometer to the liquid line just leaving the condenser. Insulate the thermometer bulb from the air with a piece of clean dry cloth or felt. With another accurate thermometer whose reading matches the

first thermometer, take the temperature of the outlet water.

"The temperature of the liquid line should not be more than 5 or 6° above the temperature of the outlet water. If it is greater than about 6°, it is an indication that the internal surfaces of the condenser are fouled with solids deposited by the water (or it could indicate that the condenser is too small for the refrigeration load).

"Another method, somewhat less accurate perhaps, is by means of the condensing temperature instead of the temperature of the liquid line. With an accurate high-pressure gauge, determine the operating condensing pressure. In the saturation refrigerant tables, look up the temperature corresponding to the condensing pressure. This is the condensing temperature.

"If the condenser is connected to city water, the condensing temperature should not be more than 10 or 12° above the temperature of the outlet water. If the condenser is supplied from a cooling tower, the condensing temperature should not be more than 5 or 6° above the outlet water temperature."

1954 Air Conditioning Specifications

A few copies of the April 19 AIR CONDITIONING SPECIFICATIONS issue are still available. Get copies of this outstanding issue for your key employees—complete specifications on self-contained room coolers, store coolers, and residential air conditioning units.

1 to 9 copies 40¢ each
10 to 49 copies 30¢ each
50 or more copies 20¢ each

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City..... Zone..... State.....

☐ payment enclosed ☐ send bill

5-24-54

Evis Hearing--

(Concluded from Page 1, Col. 3) with research on water treating methods and devices.

Merrell testified that he first became acquainted with the Evis conditioner after a representative of the manufacturer had tried to interest the Los Angeles Water Department in the conditioner. At the request of his superior, Merrell undertook to make tests designed to determine the validity of certain claims made for Evis conditioned water.

The tests were conducted during July and August, 1952, and a report covering these tests was made and dated Oct. 7, 1952. This two-page report was offered as Commissioner's Exhibits No. 1A and 1B.

Report to Water Dept.

Memorandum

Sanitary Engineering Division

Memo by J. C. Merrell to

J. M. Sanchis Oct. 7, 1952.

File Title "Reports—Chlorination-Water Treatment" Re—Research Activities during July and August, 1952.

(The following is an excerpt from the above report.)

III. A ¾-in. Evis water conditioner was examined and subjected to several tests to verify the claims of its manufacturer. This device is a 2½-lb. galvanized cast iron pipe fitting similar in outside body shape to a plug cock but with a center post made of the same material as the body. The center post was not a magnet. Claims made for this device with subsequent test results are listed below:

1. Quotation from advertisement; "Corrective action aids soap and detergents" and "Provides many of the characteristics of softness."

The hardness of untreated and "treated" water was determined by the versenate and soap tests and were as follows:

PPM Hardness-Versenate Method				
Raw	130	128	134	133
Evis "Treated"	127	132	134	133
Soap Test—ML. of Soap Solution				
Raw	10	6.8	6.7	
Evis "Treated"	7	6.8	6.7	

2. "Aids operation of base exchange softeners."

Two 50-gram portions of ion exchange material were used in softening raw and Evis treated waters. Versenate indicator was used to show the time of exhaustion and the amounts of soft water collected were compared. 16,720 ML. of raw water was softened in comparison with 16,720 ML. of Evis conditioned water.

3. "Removal of gassy suspensions improves taste and odor."

Odor threshold numbers were determined for raw and Evis treated Hollywood reservoir water and found to be 7 musty for each.

4. "Keeps drains and sumps free from scum."

Beakers of treated and raw water were placed side by side and allowed to stand for 30 days. The scum area of each was about 25% of the surface area.

Scale Removal Tests

5. "Removes old scale throughout the system."

Two ½ in. by 8-in. nipples of old pipe removed from the same hot water system were placed ahead of traps in two systems using treated and untreated water at the rate of 0.35 gallons per minute. After four weeks the nipples were reweighed and examined. Each nipple showed a loss of 1.0 gms. and no scale was found in either trap.

Having supervised but not personally performed the tests described, Merrell gave as his conclusions that neither the versenate test nor the soap test indicated any difference between Evis treated water and untreated water.

The soap test was described in detail. The witness told of using samples of Evis treated and untreated water and adding sufficient

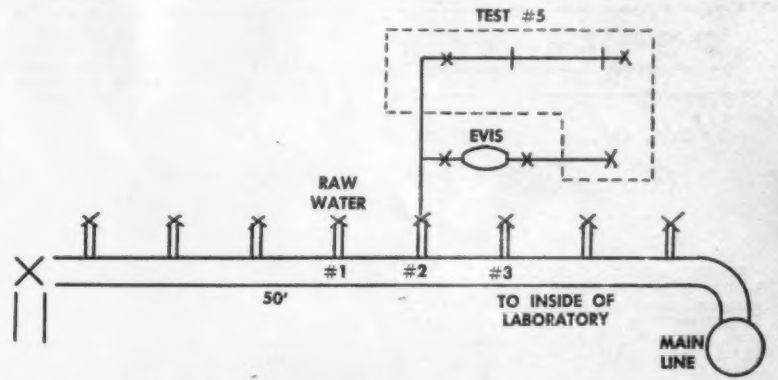


FIG. 1—Approximation of rough sketch drawn by Los Angeles Water Department Engineer J. C. Merrell which shows how samples of untreated and Evis treated water was drawn in the laboratory. Area enclosed by broken lines indicates setup for scale removal test.

soap to each to form a permanent foam.

James Michael, attorney for Evis, brought out in his cross examination that this test was visual and the point at which all necessary soap had been added to precipitate the compounds causing hardness was a matter of judgment with the worker. The first soap test indicated that it took more soap to bring the untreated water to the permanent foam point than it did with the Evis treated water. This was explained as a lack of experience on the part of the laboratory worker in performing the test. The worker performing the first test was not called as a witness.

Test Methods Described

Merrell had performed the test described in 2. Considerable time was devoted to describing the exact manner in which the Evis conditioner was installed and just how samples of Evis treated and untreated water were drawn from the system. At Michael's request Merrell drew a sketch of this arrangement. (The sketch in Fig. 1 is similar.)

Locations of the valves were given as approximate and valves used for drawing untreated water were usually adjacent to either side of the take-off from which the Evis conditioned water was drawn.

The test described in 3 was performed by Merrell personally. He described these as being of the "threshold" type and explained that untreated water was first sniffed to determine that it had a recognizable odor and that a comparison was then made of this water in its "raw" state with this same water after being Evis conditioned.

Merrell's conclusion was that the Evis conditioner had no beneficial effects on water odors.

Claim "No Standard Test"

On cross examination, the Evis attorney brought out the information that there was no standard recognized test for scum prevention or reduction and the fact that the test devised for this purpose was original and that the resultant scum was probably the deposit of material from the air which had remained after the water used in the tests had evaporated.

It was also acknowledged that the action in the beakers was not necessarily duplicated in traps or drains in use.

When Merrell gave as his opinion the conclusion that Evis treated water had no advantage over untreated water in removing old scale he was requested to indicate the manner in which the old nipples were arranged for this test. (That portion of the arrangement which pertains to 5 is so indicated in Fig. 1.)

George A. Uman, a spectro-analysis expert of the Los Angeles Water and Power Dept., was then put on the stand and his report on the analysis of the Evis conditioner was as follows:

Memo by G. A. Uman to J. C. Merrell
File Title: "Evis" water softener; Spectro and Metallographic analysis.

1. Spectro analysis shows that the entire casting is of the same alloy. It is a "gray cast steel," a "carbon cast steel," or similar designation.

Chemical Composition:

Manganese	0.70%
Silicon	0.70%
Chromium	0.10%
Vanadium	0.10%
Nickel	0.07%
Copper	0.05%
Cobalt	0.02%
Titanium	0.05%
Molybdenum	0.01%

2. Metallographic Analysis:

A medium polish and a HCL etch revealed no Macro structure. It can be assumed that this casting is all one piece.

Nature of Magnetism

There is a small residual magnetism in the casting with poles at the ends of the internal cross piece. This could have been induced by the sawing operation in the preparation of the sample. There is no known alloy of this composition corresponding to those alloys used for permanent magnets.

Conclusion—There is nothing to indicate from the above analysis that there is anything more to this device than any other single piece steel casting such as a nipple, or elbow, etc. except for the excess turbulent effects inherent in this design.

During cross examination Uman said that there were some 15 elements that would not show up in a spectrographic analysis and he could not state whether his conclusions would or would not have been altered if it were to be assumed that one or more of these 15 might have been present. He also agreed that elements contained qualities other than those discernible by chemical or spectro analysis.

Further Challenges Seen

From further cross examination it was apparent that Attorney Michael would challenge the qualifications of any who from their testimony concluded that there was no difference in Evis treated and untreated water.

His questions were directed in such a manner as to bring to light any detail which would indicate lack of expertness on the part of the witness, lack of experience in making the test, and possible limitations of the test in indicating such factors as might have altered the conclusions to be drawn therefrom.

Each witness was questioned as to the exact method of installing the Evis water conditioner, whether they had followed specific installation instructions of the manufacturer and whether any representative of the manufacturer had been contacted for the purpose of obtaining such recommendations. All who testified to installing the Evis paid particular attention to the arrow indicating the direction of flow but none had sought additional information.

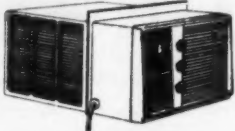
Michael asked on several occasions whether the witness had read certain other portions of Evis literature which instructed or cautioned in the use of the conditioner.

PATENTS

Week of February 2 (Concluded)

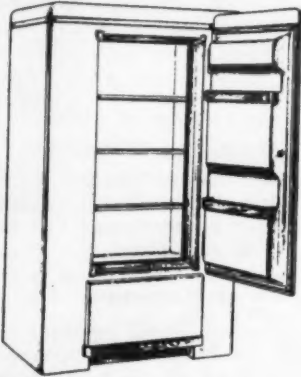
DESIGNS

171,392. ROOM AIR CONDITIONING UNIT. Robert A. Fink, Duluth, Minn., assignor to International Telephone & Telegraph Corp., a corporation of Maryland. Application Feb. 4, 1953, Serial No. 23,445. Term of patent 7 years. (Cl. D63-4.)



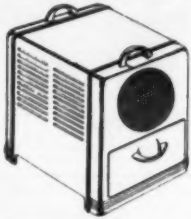
The ornamental design for a room air conditioning unit, as shown and described.

171,393. FREEZER CABINET. Robert A. Fink, Duluth, Minn., assignor to International Telephone & Telegraph Corp., a corporation of Maryland. Application Feb. 4, 1953, Serial No. 23,446. Term of patent 7 years. (Cl. D67-3.)



The ornamental design for a freezer cabinet, substantially as shown and described.

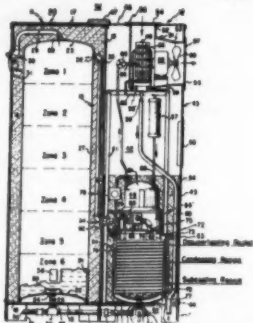
171,423. DEHUMIDIFIER. Harry E. Thompson, Stenbenville, Ohio, assignor to The Ohio Foundry & Mfg. Co., Stenbenville, Ohio, a corporation of Ohio. Application Aug. 17, 1953, Serial No. 26,481. Term of patent 14 years. (Cl. D15-2.)



The ornamental design for a dehumidifier, as shown and described.

Week of February 9

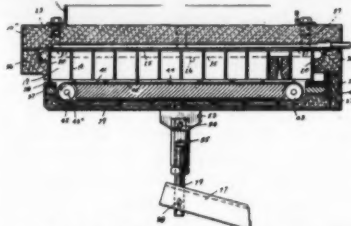
2,668,420. COMBINATION WATER HEATING AND ROOM COOLING SYSTEM AND METHOD EMPLOYING HEAT PUMPS. Kemper M. Hammel, Harrisburg, Pa., assignor to General Electric Co., a corporation of New York.



1. In a water heating system including an upstanding hot water storage tank, a cold water inlet connection communicating with the lower portion of said tank, and a hot water outlet connection communicating with the upper portion of said tank; the combination comprising an upstanding water vessel, a first conduit communicating between the lower portion of said tank and the lower portion of said vessel, a second conduit communicating between the upper portion of said tank and the upper portion of said vessel, means for heating the water in said vessel in order to cause the water to rise therein so as to induce a thermo-siphon

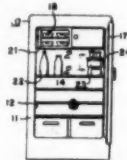
circulation of the water from the lower portion of said tank via said first conduit into the lower portion of said vessel and from the upper portion of said vessel via said second conduit into the upper portion of said tank, a valve arranged in said second conduit and selectively operable to control the passage therethrough of the water from the upper portion of said vessel into the upper portion of said tank, and thermal responsive means for selectively operating said valve.

2,668,422. ICE-MAKING MACHINE. Doran B. McShan, Indianapolis, Ind., assignor to John B. Hayston, as trustee, Icecraft (Liquidating) Trust, Van Nuys, Calif. Application Aug. 29, 1951, Serial No. 244,152. 8 Claims. (Cl. 62-106.)



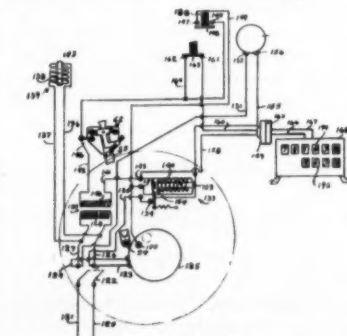
1. In an ice cube making machine, the combination of a freezing unit comprising a plurality of cells normally open at the bottom, a closure plate for said unit movable to close and seal said unit during a freezing cycle, means for introducing into said cells a liquid to be frozen into ice cubes, means for refrigerating said unit to freeze the liquid therein, an endless belt mounted in said closure plate extending transversely of and closely adjacent the open bottom of the several cells in said unit, and means carried by said plate operably connected with said belt for imparting continuous movement thereof in one direction to effect an agitation of the liquid during the freezing cycle.

2,668,423. REFRIGERATOR UTILITY DRAWER MOUNTING. Carl F. Petkewitz, Oakwood, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application June 13, 1952, Serial No. 294,151. 1 Claim. (Cl. 62-116.)



In a refrigerator, a cabinet, said cabinet having a compartment therein, a closed refrigerating system associated with said cabinet, said system including a refrigerant translating unit and a refrigerant evaporator for cooling the interior of said compartment, vertically spaced apart elements extending continuously across said compartment to define therebetween an area of predetermined height adapted to receive and store tall articles in an upright position, a covered receptacle device in said compartment, means independent of said elements for mounting said device within said area of predetermined height, said mounting means positioning the bottom of said receptacle device in spaced relation above the lowermost of said vertically spaced apart elements to form within said area of predetermined height a first small food storage area, said lowermost element providing a support for receiving and storing relatively short in height articles within said first smaller food storage area beneath said device, said mounting means positioning the cover of the receptacle of said device in spaced relation below the uppermost of said vertically spaced apart elements to form a second smaller food storage area within said area of predetermined height, said cover of said receptacle providing a support for receiving and storing relatively short in height articles thereon within said second smaller food storage area above said device and below said uppermost element, and said independent mounting means preventing the weight of contents of said receptacle device and the weight of articles supported on the cover thereof from being transmitted to either of said elements.

2,668,445. DEGREE-DAY REGISTERING DEVICE. Elmo D. Hidy, Cincinnati, Ohio. Application July 22, 1949, Serial No. 106,279. 14 Claims. (Cl. 73-339.)



8. In a degree-day register, a counting circuit having parts adapted to be put in and out of electric contact to energize said circuit, a totalizing register, means adapted to operate said register in response to energization of said circuit, degree-day detecting means which detects each degree day as it occurs by causing electrical contact between said parts, the arrangement of said circuit, parts, register, register-operating means and detecting means being such that the electrical contact between the parts must remain undisturbed for a finite time after each contact caused by detection of a degree-day in order that the said degree-day be registered accurately, and means operated by the first said means when said circuit is energized to maintain energization of the first said means only for a sufficient time and independently of whether the said parts are in contact to permit each detected degree-day to be properly registered by said register.

Week of February 16

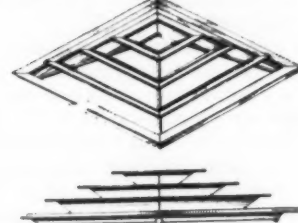
2,669,012. METHOD OF MAKING FINNED TUBES. Ernest Ruegger, Massillon, Ohio.



4. The method of making finned tubing which consists in advancing a ribbon of metal toward the tube with its surface at an angle to the axis of the tube, rotating the tube to the coil the ribbon about the tube in the form of a helix with the plane of the ribbon uniformly inclined to the axis of the tube without securing the inner edge of the helix to the tube and bending the ribbon to a plane substantially normal to the axis of the tube to thereby press the inner edge of the helix against the wall of the tube to secure it to the tube and to form a good heat-conducting joint therewith.

DESIGNS

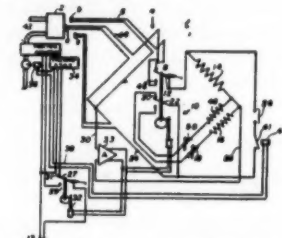
171,506. AIR DIFFUSER FOR CEILING. Leo Krueger, Tucson, Ariz.



The ornamental design for an air diffuser for ceilings, as shown.

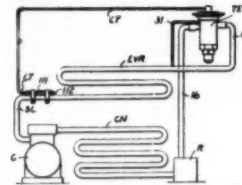
Week of February 23

2,669,948. AUTOMATIC REFRIGERATING DEFROSTING CONTROL. Minoru Fujii, Washington, D. C.



1. The method of automatically defrosting of a refrigerator cooling unit upon which ice tends to form which comprises detecting the temperature difference between a first locus removed from the surface of said cooling unit by the maximum distance to which frost is permitted to extend and a second locus, further from said cooling unit, converting said temperature difference into a first electrical parameter; initiating defrosting action when said first electrical parameter attains a predetermined magnitude representing the extension of frost formation to said first locus; detecting the temperature difference between a locus immediately adjacent the surface of said cooling unit and a more remote location from said cooling unit; converting the last said detected temperature difference into a second electrical parameter; transferring control of the defrosting action from said first electrical parameter to said second electrical parameter; ceasing said defrosting action when said second electrical parameter attains a predetermined magnitude representing elimination of frost from said surface; and reestablishing the initial control conditions.

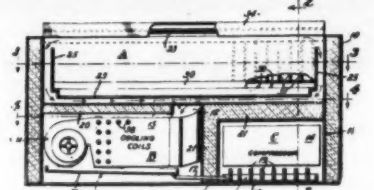
2,669,949. REFRIGERANT FLOW CONTROL. Harold T. Lange, Webster Groves, Mo., assignor to Sporlan Valve Co., Inc.



1. The combination in a compressor-condenser-evaporator refrigeration system, of a thermostatic expansion valve arranged to control the flow of refrigerant to the evaporator, and comprising thermal

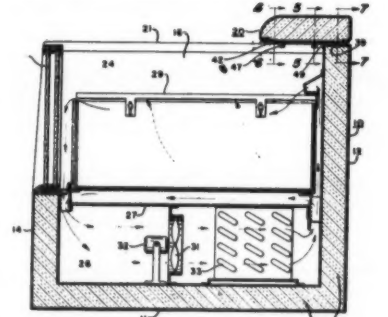
responsive means arranged to act in accordance with suction line temperature for operating the expansion valve, said means including a thermal-sensitive container consisting of a coil of a thin-wall tubing, the coil being located and arranged to be heated and cooled from the suction line, said coil being charged with a volatile and expansive fluid, and a mass constituting a core within the coil and having restricted thermal communication with the coil tubing, the material of said mass possessing a greater heat capacity than the material of the coil, the mass being of such nature and so related to the coil as to effect markedly differential rates of valve opening and closing action in response, respectively, to increases and decreases of suction line temperatures.

2,669,950. REFRIGERATED OPEN TOP COMPARTMENT. Robert H. Bishop, Champaign, Ill. Application Nov. 14, 1951.



1. A refrigeration system comprising an open top storage compartment and an outer cabinet, the storage compartment being spaced inwardly from the cabinet, a compressor unit, an air cooling unit, housings for each, a manifold communicating with the cooling unit and extending along one side of the cabinet, a vertical duct, a plurality of orifices in the manifold, communicating with the duct, vertical dividers in the duct between said orifices, a splitter to direct a portion of the air from the vertical duct downwardly and outwardly through and across the storage compartment, means spaced above the splitter to direct the remaining air downwardly and outwardly through and across the storage compartment, the walls of the cabinet extending above the walls of the storage compartment and spaced outwardly therefrom, means spaced from the bottom of and separating the storage compartment from said housings, thereby forming an annular space between the walls of the cabinet, said last named means, and the walls and bottom of said storage compartment, a duct from said last named means communicating between the annular space and the cooling unit housing, means to draw air through said annular space, the last named duct and the housing of the cooling unit and to force it through the cooling unit and thence to the manifold.

2,669,951. OPEN TOP DISPLAY CASE WITH SLIDABLE HOOD. Joseph R. Fichter, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio.



1. A self-service refrigerated display case comprising in combination, a bottom wall, a rear wall, a front wall and end walls forming an elongated open top compartment in said case, a food supporting device inset within said compartment, means for cooling air in said case, means for circulating the cooled air over food products on said device, an insulated unitary hood structure on said case extending continuously throughout the length thereof with its ends engaging and supported by said end walls, said hood structure projecting from said rear wall to normally cover the back portion of the open top of said elongated compartment between said front and rear walls, and said hood structure being movable along said end walls in a direction toward said front wall to open the normally covered portion of said compartment open top and provide access to said food supporting device over said rear wall from in back of said case.

(To Be Continued)

The KEY to AIR CONDITIONING

by James J. LaSalvia

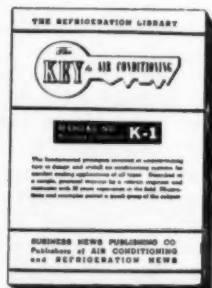
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MANUAL NO. K-1—The physics of air conditioning; use of charts; methods of ventilation; figuring air requirements; refrigeration problems in air conditioning; use of fans; methods of air distribution. Psychrometric chart included with book.

MANUAL NO. K-2—Sheet metal ducts (sizing methods, problems of design); discussion of air cleaning devices; heat transmission coefficients; problems and tables for figuring heat gain; air through cooling coils; selection of cooling coils, expansion valves, compressors, and water cooling coils.

MANUAL NO. K-3—General discussion of heating systems; selection of heating coils (air friction, condensation); description and operation of evaporative condensers; water cooling towers; automatic controls; piping refrigerant, water, and steam; and insulation problems.



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Government Contracts

PROCUREMENT INFORMATION

The following is a list of proposed procurement issued by the various indicated U. S. Government procurement offices. Prospective bidders may obtain complete bid sets by a request to the purchasing office under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date. It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of those offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices. Ordnance District Offices do not have information on any other purchases.

DEPARTMENT OF DEFENSE

Description	Quantity	Invitation No.	Opening Date
Corps of Engineers, Albuquerque District, Albuquerque, N. M. Revisions to heating and ventilating systems, Ft. Bliss, El Paso, Texas.	Job	ENG-29-005-54-122B	9 Jun 54
Supply Department, Puget Sound Naval Shipyard, Bremerton, Washington			
Forced Draft Fan control and coupling equipment for direct coupling to 1180 RPM elec. 100 hp. motor-test block capacity 170,000 lbs. per hour air at 105° F. static pressure.	1 ea.	420A/54 B	9 June 54
Induced draft fan complete with inlet boxes-inlet vane control geared turbine drive-flexible coupling-and air operated steam throttle valve-capacity 200,000 lbs. per hour gas at 425° F. static pressure.	1 ea.	420A/54 B	9 Jun 54
Purchasing and Contracting Officer, Redstone Arsenal, Huntsville, Alabama			
Services and materials necessary for design construction-erection-installation of a complete high altitude test facility and investigation of aerodynamics heat transfer effects in accordance with detailed scope of work and specifications.	1	CS78-54	25 May 54
Purchasing and Contracting Officer, Selfridge Air Force Base, Michigan			
Furnishing of labor, equipment, material and appliances necessary for the modification of the heating system at Hq. 30th Air Division, Willow Run Airport, Belleville, Michigan.	Job	20-602-54-47"B"	7 Jun 54
Armed Services Medical Procurement Agency, 84 Sands St., Brooklyn, New York			
Refrigerated mobile oxygen tent.	96 ea.	54-266B	1 Jun 54
Bureau of Ships, Washington, D. C.			
Refrigeration condenser	7	549-853Q	7 Jun 54

Circulating 10 g.p.m. at 56 ft. Galveston District, Corps of Engineers, P.O. Box 1229, Galveston, Texas

Const. of Hospital, 500 bed (1000) chassis, Lackland AFB, San Antonio, Texas. Work to consist principally of the const. of a 9-story reinforced concrete structure approx. 325,000 sq. ft., partially air conditioned.

Ft. Worth District, Corps of Engineers, U. S. Army, Ft. Worth, Texas

Mission Sizing Building. (including cooling tower). Job (ENG-41-443-54-68B) 2 Jun 54

Navy Purchasing Office, 111 E. 18th St., New York, N. Y.

Air conditioning units with water cooling tower. 4 ea. 2151-B 7 Jun 54

Base Procurement Division, EWMP, Building #120, Wright-Patterson Air Force Base, Ohio

Cabinet, Temperature Conditioning. 1 ea. (IFB-33-601-54-120B) 28 Jun 54

GENERAL SERVICES ADMINISTRATION

Description	Quantity	Reference No.	App. Bid Date
Business Service Center, General Services Administration, Region 8, Bldg. 41, Denver Federal Center, Denver, Colorado	Job	Project No. 215	28 May 54
Air conditioning, N.B.S. Laboratories, Boulder, Colo.			
Business Service Center, General Services Administration, 1800 Federal Office Bldg., Region 6, Kansas City 6, Missouri	Items	C R 1159	8 Jun 54
Air cooling units, St. Louis, Mo. Ct. H. and Cu. H.			

U. S. DEPARTMENT OF COMMERCE

Maritime Administration, Office of Property & Supply, Room 1215 Masonic Temple Building, New Orleans 7, La.

Furnish and install a complete gas fired central forced air heating system, at the U. S. Department of Commerce, Maritime Administration, Mobile Reserve Fleet, Bay Minette, Alabama, in the Administration Building at Sismore Landing: Building Dimensions L-60', W-30'.

U. S. Weather Bureau, Washington 25, D. C.

Attn: Chief, Procurement and Supply Section: Motor blower, centrifugal fan 100 ea. 124-WB-54 2 Jun 54

type, small type housing capacity of not less 100 c.f.m. to operate from 115-volt, single-phase, 60-cycle power source.

CONTRACTS AWARDED THROUGH MAY 17

Savannah District, Corps of Engineers, Savannah, Georgia

Construction of heating plant, distribution mains, and heat conversions, Dobbins AFB, Marietta, Ga. Eng-09-133-54-41.-237.-580.-Kaminer Construction Co., Inc., 303 S. Hudson St., Greenville, S. C.

Navy Purchasing Office, Washington, D. C.

Frozen Food cabinet, chest type (Inv. 7761-B).—516, \$64,876.—Revco Inc., Deerfield, Mich.

Cory Names Eisendrath To Head Manufacturing

CHICAGO—J. W. Alsdorf, president of Cory Corp., manufacturer of Cory, Nicro, and Fresh'n-Aire appliances, has announced the appointment of David C. Eisendrath as plant manager to head all Cory division manufacturing operations.

Eisendrath will undertake responsibilities previously discharged by E. C. Neuman, Cory vice president. Neuman will be transferred to the executive offices of the corporation here to direct planning and procurement.

Prior to his association with Cory, Eisendrath served as works manager of Pheoli Mfg. Co., Chicago. During the war he served as chief of the Gage Administration Section, Chicago Ordnance District.

He attended the University of Michigan College of Engineering, graduating in 1938 with degrees in both mechanical and electrical engineering.

Fair In Westinghouse Market Planning Post

NEW YORK CITY—Norman M. Fair has been appointed market planning supervisor for the north-eastern region of Westinghouse Electric Corp., R. S. Kersh, vice president, announced recently.

A graduate of Bethany college in Bethany, W. Va., Fair has been with the headquarters sales department of Westinghouse in Pittsburgh since 1946. During World War II he served overseas as an officer with the U. S. Army in Europe. Prior to that time he was associated with National Tube Co.

Day, Head of Bay State York Co., Dies Suddenly

MILTON, Mass.—Albert M. Day, 50, president of Bay State York Co. of Boston, died recently at his home here. Surviving are his wife and a daughter. He entered the air conditioning field in 1927 and in 1944 founded the firm he headed.

Revco Names Stutzman Assistant Sales Manager

DEERFIELD, Mich.—R. W. Stutzman, sales coordinator for Revco, Inc., has been promoted to assistant sales manager according to Harold Overmyer, vice president and director of sales for the food freezer manufacturing firm.

Stutzman joined the company in 1947 as sales representative selling ice cream vending machines and freezers. A year later he was placed in charge of all ice cream vending machine sales and in 1950 became sales coordinator. He coordinated sales ordering and inventories through the company sales staff and distributors.

In his new position he will contact Revco distributors and dealers in the field and will work with company district sales managers, according to the announcement.

Howard Donates Freezer To Runyon Fund Contest

PHILADELPHIA—Howard Refrigerator Co., Inc. has donated a 1954 15-cu. ft. upright freezer (model F-15), valued at \$535, as one of the prizes in the Damon Runyon Fund "Why I Could Never Be a Red" contest, according to Albert Fogel, president.

The fact that the company is participating in the contest was reported by Walter Winchell in a syndicated newspaper column recently.

Manufacturer's Agents

for excellent line of refrigerators and home freezers by old-established firm selling through wholesalers. Must have solid background in major appliances, good reputation in trade, and limited non-competing lines. Texas and Oklahoma; Missouri, Nebraska, Kansas; Northern California; New England and upper New York State. Box 4568, Air Conditioning & Refrigeration News.



JOHN H. COOLIDGE, president of Sherer-Gillett Co., presents scholarship to Gerald R. Thomas, Marshall high school senior, as Harley W. Holmes, superintendent of schools, and M. H. Strang, Sherer's refrigeration engineer, look on.

Sherer Scholarship Strives To Arouse Interest In Commercial Refrigeration

MARSHALL, Mich.—The first award has been made of a scholarship in refrigeration technology under the plan instituted by Sherer-Gillett.

Under the plan an annual two-year scholarship is awarded for study at Ferris Institute at Big Rapids operated under the Michigan State Board of Education. Applicants for the scholarship are required to be in the senior class of Marshall High school with at least one complete year of study there.

The applicant is selected by the superintendent of the Marshall school system and his teaching staff, together with two executives of Sherer-Gillett.

The 1954 award went to Gerald R. Thomas and carries with it not only the \$1,200 cash value for the scholarship itself, but also assurance of employment at the Sherer-Gillett factory during the summer vacation, and the opportunity for permanent employment upon completion of the course.

In commenting on the award to Thomas, John H. Coolidge, Sherer-Gillett president, emphasized that while the company hoped that all scholarship winners would eventually become members of the Sherer family, there was no provision in the scholarship that insisted upon their joining the company.

"Our primary purpose in establishing the scholarship," said

Coolidge, "is to try and direct at least one young man each year from our local graduating class into commercial refrigeration."

"We feel that it offers an excellent opportunity in a growing industry and that if we can help to provide a basic theoretical and practical education in refrigeration, the industry will benefit and the young man himself should be able to make good progress no matter with whom he affiliates."

Chicago ASRE To Hold Golf Tourney June 10

CHICAGO—The Chicago Section of the American Society of Refrigerating Engineers will hold its 11th annual golf tournament at Itasca Country Club on Thursday, June 10.

There will be prizes for golf prowess and for duffers. The tournament is to be followed by dinner at 6:30 p.m.

Since a record turnout is expected, reservations should be made at once by contacting E. C. Fockler, golf chairman, Sporlan Valve Co., 10336 S. Western Ave., Chicago 43, Fockler said.

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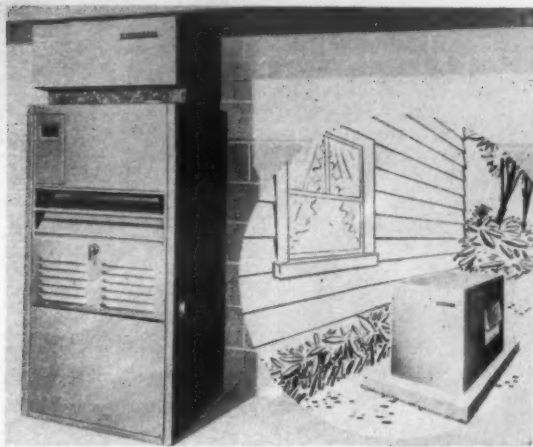
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CONVENTIONAL FORCED warm air furnace (left), with the cooling coil section of the Typhoon Convert-to-Cool system mounted in the duct above the furnace. Artist's drawing shows the air-cooled refrigeration section in a typical installation outside the house.

Typhoon--

(Concluded from Page 1, Col. 2)

meeting, which consisted of two days of intensive briefing on engineering, application, and market potential for the new product.

First public showing of the unit was at the National Indoor Comfort Exposition in Philadelphia, May 16-20.

"The Convert-to-Cool system comprises two separate units, the cooling coil unit, which is normally installed in the ductwork right on top of the furnace, and the air-cooled condensing unit, which can be placed anywhere outside the living area—in a utility room, breezeway, basement, garage, or attic, or outside the house," the company explained.

"The condensing unit includes a hermetic refrigeration compressor and an air-cooled condenser."

Typhoon asserts that the cost of the Convert-to-Cool system to the consumer will be considerably less than the cost of other methods of adding cooling to existing heating plants.

The air-cooled feature of this equipment is also expected to be an important factor in selling to homeowners, since it will eliminate water supply and drainage problems and extra plumbing costs, and will assure operation even during water shortages, it was pointed out.

"A special feature of the Convert-to-Cool system is the large condenser coil surface area, which increases the efficiency of the system and assures cooling even during the hottest weather," Typhoon declared.

"The fan opening in the condensing unit is equipped with a wire grille to protect children and pets, and rain hoods are available for both the fan opening and the air-cooled coil opening for outside application. Generally, a concrete slab will be used for a base for the condensing unit if located outside."

In addition to the air-cooled Convert-to-Cool system, Typhoon is also planning to introduce several water-cooled models in 3 and 5-hp. capacities. One model will also include a blower section for homes using steam or hot water heat.

G-E Air Conditioning Div. Adds 7 Field Representatives

BLOOMFIELD, N. J.—Seven field sales representatives have been added by the General Electric Co. Air Conditioning Div. according to J. S. Beldon, manager of marketing for the division.

The move was described as part of the recent expansion of marketing facilities which included the addition of two new national sales regions.

Cecil C. Coulter has been added to the Los Angeles office and H. J. Carr to the staff in Louisville. Both will specialize in G-E packaged air conditioners and water coolers.

For sales of home heating and cooling equipment, the following men have been added: John H. Taylor, Detroit; Lee D. Nutter, Chicago; J. H. Shoemaker, San Francisco; S. H. Painter, Philadelphia; and Roy H. Stearns, Washington, D. C.

All of the men have had previous G-E experience.



E. V. JARVIS



D. D. WILE

Recold--

(Concluded from Page 1, Col. 3) search and engineering; Ernie Jarvis assumes charge of manufacturing.

Hy Jarvis, founder of Refrigeration Engineering, Inc., has been active in management of the firm since it was established in July, 1932. Well known to members of the refrigeration industry, Jarvis' efforts have been a major factor in developing Recold into a major factor in the production of cooling coils, water-saving devices, and air conditioning units.

Wile, as chief engineer, has been in charge of engineering, research, and development activities since joining the organization in 1947. He is recognized as an outstanding technical authority on refrigeration and air conditioning, and many of the features of Recold equipment, as well as the development of the Recold air conditioning line, are a result of his efforts.

Ernie Jarvis joined Recold early in 1948, shortly after being discharged as a Lt. Commander in the U. S. Navy. He has served in a management capacity since joining the firm.

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Proper Sizing of Home Systems--

(Concluded from Page 1, Col. 4)

portance of installing the proper size of system for residential cooling work. It is important that the system not be undersized, he said, but it is almost equally important that it not be oversized.

Oversizing contributes to wide swings in temperature and humidity, high operating costs, greater peak loads, and excessive cycling.

Undersizing, it was pointed out, also results in high operating costs as a direct function of extra hours of running time. The user anticipates peak loads by lowering the thermostat setting. The greater temperature difference in off-peak periods caused by this means increased power consumption.

Hirschbach then described how variables in home construction affected the equipment size, installation and operating costs, and peak load power demand of residential air conditioning systems.

Using for an example a one-story, 1,250-sq. ft. floor area house, the speaker showed that the heat gain would total 33,800 B.t.u. where no insulation or weather stripping was used, and there was only 2 in. or equivalent ceiling insulation.

By using 2 in. of insulation in the walls, and 4 in. in the ceiling, weather-stripping the windows, sensible load can be reduced to 20,500 B.t.u. per hour. By using a 2-ft. overhang on the south wall,

a further reduction to 17,900 B.t.u. per hour sensible is obtained.

The average residential packaged air conditioner, the speaker stated, has a heat rejection capacity per ton of approximately 9,000 B.t.u. per hour sensible and 3,000 B.t.u. per hour latent.

House No. 1, therefore, requires 33,800 B.t.u. divided by 9,000 or 3.75 tons.

House No. 2, with the heat-load reducing factors as suggested, requires 17,900 divided by 9,000 or 2 tons.

Assuming that a 3.75-ton unit is available, based on the varying solar load, and assuming a constant conduction plus infiltration load, the larger unit will cycle about 10 times during the 6 hours from 8 a.m. to 2 p.m., each time throwing a 3¾-hp. load across the line, the speaker stated. During these six hours it will be in operation about 70% of the time.

In contrast, the smaller 2-ton unit will remain on the line almost continuously for this entire period.

Hirschbach said that the commercial or industrial cooling system had to be designed for instantaneous response to peak demand, but the residential system does not have sharp peak requirements.

For the most favorable demand on utility lines, he said, advantage must be taken of the ability to design residential systems for reasonably constant operation over

long periods with minimum horsepower equipment.

The power demand on utility facilities will offer desirable characteristics if the systems installed are well engineered, it was stated. The manufacturers of air conditioning equipment contribute to favorable loading by encouraging soundly engineered systems.

Correction



Earl Palmer



E. W. Seay

Earl Palmer (l.) was recently appointed national sales promotion manager for Airtemp Div. of Chrysler Corp. For the last two years he has held the post of Washington, D. C. regional manager for the firm. He originally joined Airtemp's sales division in 1948 as district representative for Virginia, Maryland, and the District of Columbia. Palmer's picture inadvertently appeared with the story on the appointment of E. W. Seay as manager of advertising and sales promotion for the Westinghouse Air Conditioning Div. in the May 3 News. Seay's picture is on the right.

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